

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LONDON, SATURDAY, AUGUST 28. 1875.

WITH
SUPPLEMENT. { PRICE
PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

BUSINESS in all COLLIERY and IRON Shares, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND,

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.

COTTON SPINNING SHARES Bought and Sold, including those of Oldham, Bury, Heywood, Darwen, Accrington, and neighbouring districts. This description of security can be purchased to pay the investor very fair interest upon outlay.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

SPECIAL DEALINGS in the following, or part:—10 Ashton, 30s.; 40 Bog, 2s. 4d.; 30 Bampfylde; 5 Bullock Iron, £41; 50 Bulson, £10; 5 Carr Brea, 40; Cathedral, 2s.; 25 Chapel House, £3 12s. 6d. (ex div.); 50 Cardifl and Swansea, £3 17s. 6d.; 20 Chicago, £4 12s. 6d.; 30 Chontales, 11s. 3d.; 20 Colorado, £2 17s. 6d.; 10 Cedar Creek, 16s.; 5 Cape Copper, £3 5s.; 50 Don Pedro, 18s.; 20 Ebbw Consols, £2 17s. 6d.; 20 Emma, £1 15s.; 15 Eberhardt, £3 7s. 6d.; 30 East Van, 20s.; 10 East Lovell, £7 5s.; 15 East Caradon, 17s. 6d.; 20 Flagstaff, £1 7s. 6d.; 40 Frontino, 2s. 4d.; 100 Gold; 50 Gold Run, 16s. 3d.; 100 Javali; 40 Lawe's Chemical, 4s. 6d.; 15 Last Chance, 21 2s. 6d.; 25 Ladywell, £2 18s. 9d.; 20 Marke Valley, 22 10s.; 20 New Querada, £2 2s. 6d.; 20 New Rosewarne, 8s. 9d.; 10 North Prince Patrick, 10s.; 50 Old Trebutreign, 4s. 9d.; 20 Pateley Bridge; 20 Parys Mountain, 13s.; 15 Pennerley; 50 Penstruthal, 10s.; 100 Positive Assurance, 11s. 6d.; 50 Plymlimon; 50 Port Phillip, 17s. 6d.; 10 Roman Gravels, 21s.; 20 Richmond, £12 1/2; 5 Rio Tinto, £7; 10 Sweetland, 23 5s.; 15 Tanckerville, £11 12s. 6d.; 10 Thorp's Gawber, 49s. (cum div.); 50 Teocoma, 12s. 6d.; 30 Van Consols, £2 2s. 6d.; 10 West Chiverton, £10 16s.; 5 West Tankerville, £1 2s. 6d.; 5 West Togus, £5 1/2; 10 Wheal Uny; 15 Wheal Crebor, £2 17s. 6d.; 35 Silksone Fall, 8s.; 70 United Bituminous, 3s. 6d.; 10 Langdale Chemical, £4 1/2.

* Shares sold for forward delivery (one or two months) on deposit of 20 per cent.

Business on hand in all the leading TIN, COPPER, and LEAD Shares.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.,
Transacts business in MINING and COLLIERY Shares of every description. English and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT or SPECULATION.

Purchases and Sales negotiated in Unmarketable Stocks and Shares.

Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded to bona fide Investors free on application.

Bankers: The National Provincial Bank of England, E.C.

SPECIAL BUSINESS in the undermentioned, at close market prices:—
Assiction. Emma (Silver). Roman Gravels.
Bog. Birdseye Creek. Frontino. Richmond.
Carn Brea. Gold Run. Sweetland Creek.
Cape Copper. Cathedral (Copper). Marke Valley. Tincroft.
Chapel House Colliery. Ladywell. Van.
Chiosco (Silver). Pennerley. West Chiverton.
Dolcoath. Parys Mountain. West Tankerville.
Don Pedro. Penstruthal. Wheal Uny.
Devon Consols. Pateley Bridge.
Eberhardt. Port Phillip.

FOR SALE.—100 North Laxey at 13s. 6d., 40 Gwyngwillyll Colliery Company, and 60 United Land Shares (offers wanted).

IMPORTANT.—Intending investors should lose no time in securing shares in well-selected mines at the low quotations now ruling, as an early and substantial advance may be confidently relied upon. Provided proper discrimination is exercised in the selection, there are, at present few, if any, other securities in the market which offer such a favourable field for investors, and considering the extremely low prices of the majority of shares in sound dividend and progressive mines, anyone investing now has the advantage of a minimum of risk, and will in all probability be enabled to realise handsome profits within a comparatively short period.

W.H.B. will be happy to furnish, on application, a list of shares which are likely to have an early rise in market value.

Prompt attention given to all letters and telegrams.

WILLIAM HENRY BUMPUS, SWORN BROKER.

OFFICES—44, THREADNEEDLE STREET, LONDON, E.C.

MESSRS. PYNE AND ASHMEAD,
CITY MINING AGENTS,
LONDON MANAGEMENT OF COMPANIES UNDERTAKEN.
ACCOUNTS AUDITED, LIQUIDATIONS CONDUCTED.
6, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCHIN LANE, E.C.
Consols, Foreign Bonds, Railways, and every security quoted on Change bought and sold.

Bankers: London and Westminster, and City Bank.

Clients giving the usual "cover" can open accounts for the fortnightly settlement. Coupons collected and drafts cashed free of charge. References given when necessary in most of the leading towns of the United Kingdom. Commission on Railways 5s. per cent.

SPECIAL BUSINESS in Glaisdale Quarry, Alltami Colliery, Eberhardt, Cape Copper, Cardiff, Chapel House, Pateley Bridge Lead. Particulars may be had of this rising company.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
77, CORNHILL, LONDON.

Turkish Six Per Cents. of 1854, 1858, 1862, 1865, 1871, and 1873 specially recommended; also Wheal Grenville, Treleigh Wood, Parys Mountain, Wheal Peover, and Crebor shares.

Business transacted at the following rates of commission:—Foreign Stocks, 1/2 per cent.; and Mining Shares of £1 each and upwards, 1/4 per cent.; under £1, 1s. per share.

G. E. SIMPSON, STOCK AND SHARE DEALER,
6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C., will
SELL THE FOLLOWING SHARES, free of commission:—
20 Alamillos, £3 1s. 3d. 25 Penstruthal, 9s. 6d.
40 Australian, £2 2s. 6d. 30 Frontino, 2s.
50 Birdseye, £1 12s. 6d. 35 Flagstaff, £1 6s. 3d.
70 Bog, 8s. 3d. 50 Roman Gravels, £1 1/2.
10 Biston and Crump, £1 1s. 3d. 40 Sweetland Creek, £2 5s.
20 Cathedral, £2 s. 9d. 40 Hington, £1 3s.
75 Chontales, 11s. 9d. 50 St. Patrick, £1 2s. 6d.
40 Chapel House, £2 13 9 50 Javali, 16s.
25 Cardiff & Swan, £2 6s. 3d. 20 Ladywell, £2 16s. 3d.
40 Don Pedro, 15s. 35 Van 22s.
50 Monydd Gorddu, £2 5s. 50 Van Consols, £2.
70 Pennerley, £1 1/2. 10 W. Chiverton, £1 1/2.
40 Pateley Bridge, £2 13 9 10 W. Chiverton, £1 1/2.

M R. GEORGE BUDGE, STOCK AND SHARE DEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 22 years) has SPECIAL BUSINESS in—60 Monydd Gorddu; 20 Cardiff and Swansea; 24; 60 Lawe's Chemical; 50 Alltami, £5; 30 Western Andes, £3 3s. 9d.; 1 Nant-y-Glo and Blaina Ordinary, £2 1/2; 30 Grogwinion; 75 Cakemoor Colliery; 50 St. Patrick, £2 s.; 40 Cathedral, £2 5s.; 25 East Van, 20s.; 100 Port Nigel; 100 West Milwr, 6s. 2d.; 70 Plymlimon, 6s. 9d.; 40 Marke Valley; 50 Glaisdale; 10s. 9d.; 20 West Chiverton; 100 Don Pedro 10s.; 100 South Aurora, 9s. 6d.; 150 Gold Run, 17s. 6d.; 300 Exchequer; 100 Malpas, 11s. 3d.; 80 I.X.L.; 220 London and California; 35 Blue Tent, £5; 200 Yorke Peninsula, 10s. 9d.; 100 New Pacific, 9s. 6d.; 70 Hirisey Creek; 50 Mammoth Copperpools; 125 Frontino and Bolivia; 200 Sir John Moor.

COLLIERY.—There is a great future in store for this colliery. The new works are being pushed on with a view to raising 1000 tons per day, when it will be one of the best paying of colliery companies. Present profits are most satisfactory. The dividend at the rate of 10 per cent. was paid last week.

Shares are rising. I have business in them at the closest price.

INVESTMENTS IN STOCKS AND SHARES.—
BRITISH and FOREIGN STOCKS and SHARES BOUGHT and SOLD.

List of Prices and other information sent on application.

Bankers: The Alliance Bank (Limited), London.

MR. P. WATSON, 79, OLD BROAD STREET, LONDON, E.C.

(Close to Stock Exchange.)

FINANCIAL OPERATIONS NEGOTIATED.

M R. ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON.
(Established 1853.)

Mr. COOKE can sell the following Shares, and guarantees delivery, free of commission:—

5 Bilboa Iron Ore. 85 No. Prince Patrick. 40 Richmond Consolida., £12 3s. 9d.
25 Cathedral, 2s. 55 Glaisdale, 20s. 100 Penstruthal. 15 Saint Patrick, 22s. 6d.
55 Pateley Bridge. 27 10 Pennerley, 30s. 25 Thorp's Gawber.
40 Javali. 50 Plymlimon, 7s. 50 Uni. Bituminous, 5s.
25 Llanwrst Lead. 100 Silkstone Fall. 100 Wheal Uny.

Buyer of Marke Valley, Tyllwyd, Caldebeck Fells, Creborth, Chapel House, and Penstruthal.

Shares having no quotations affixed may be had at lowest market prices.

Business transacted in nearly all Coal, Iron, Manufacturing, and Miscellaneous Shares.

MR. T. E. W. THOMAS, SWORN SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
(Established 1857.)

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

Buyers. Sellers. Buyers. Sellers. Buyers. Sellers. Buyers. Sellers.

Bilson and Crump £ 9 1/2 £ 10 1/2 Plynlimon 5s. 6d. ... 6s. 6d.
Birdseye Creek 1 1/2 1 1/2 Port Phillip 13s. 9d. ... 15s.
Bog 7s. ... 8s. Prince of Wales 2s. ... 4s.
Carn Brea 37 ... 39 Richmond £ 12 ... £ 12 1/2
Cardiff and Swansea 3 ... 3 1/2 Rio Tinto 6s. ... 7
Chapel House 3 1/2 ... 3 1/2 Roman Gravels 11 1/2 ... 12
Devon Great Consols 2 1/2 ... 2 1/2 St. Patrick 1 ... 1 1/2
Dolcoath 44 ... 46 South Carn Brea 1 1/2 ... 1 1/2
Don Pedro 10s. ... 12s. 6d. South Conduorow 5 ... 5 1/2
Eberhardt 7s. ... 8s. So. Prince Patrick 1 1/2 ... 2 1/2
East Caradon 1 ... 1 1/2 Sweetland Creek 3 ... 3 1/2
East Lovell 7 ... 7 1/2 Tankerville 11 ... 11 1/2
East Pool 13 ... 14 Thencroft 21 1/2 ... 22 1/2
East Van 13 1/2 ... 15 1/2 Van 24 ... 26
Flagstaff 1 1/2 ... 1 1/2 Van Consols 1 1/2 ... 2
Hinstone Down 1 1/2 ... 1 1/2 West Chiverton 16 ... 17
Javali 15s. ... 16s. West Maria 3s. ... 5s.
London and California 3/4 ... 5/4 West Milwr 5s. ... 7s.
Marke Valley 2 1/2 ... 2 1/2 West Tandeville 1 1/2 ... 1 1/2
New Querada 3/4 ... 4 West Tandeville 1 1/2 ... 1 1/2
Parys Mountain 12s. ... 13s. Wheal Crebor 2 1/2 ... 2 1/2
Pateley Bridge 6 ... 7 Wheal Jane 3 ... 3 1/2
Pennerley 13 1/2 ... 15 1/2 Wh. Kitty (St. Agnes) 2 1/2 ... 2 1/2

Buyers. Sellers. Buyers. Sellers. Buyers. Sellers. Buyers. Sellers.

Bog 9s. ... 10s. Plynlimon 5s. 6d. ... 6s. 6d.
Frontino 1 1/2 1 1/2 Port Phillip 13s. 9d. ... 15s.
Gold Run 1 1/2 1 1/2 Prince of Wales 2s. ... 4s.
Javali 1 1/2 1 1/2 Richmond £ 12 ... £ 12 1/2
Pennerley 1 1/2 1 1/2 Rio Tinto 6s. ... 7
Plymlimon 1 1/2 1 1/2 Roman Gravels 11 1/2 ... 12
Port Phillip 1 1/2 1 1/2 St. Patrick 1 ... 1 1/2
Tyllwyd 20s. ... 25s. South Carn Brea 1 1/2 ... 2 1/2
Carden Mining Company (L.) 49 10s. pd. £ 12 ... £ 13

Buyer. Seller. Buyer. Seller. Buyer. Seller. Buyer. Seller.

Kington Cons., 15 per cent. Pref., £1 paid. 22s. 6d. ... 27s. 6d. 30 Port Nigel, 27s. 6d.
New Hendra 20s. ... 25s. 30 Plymlimon, 7s. 3d.
30 Riche, £1 13s. 6d. 40 Richards & Co., £2 6s 3
Bedford United, 17s. 20 Rookhope, 3s.
20 Chapel House, £3 13 9 50 Javali, 16s.
25 Cathedral, 2s. 6d. 20 Ladywell, £2 2s. 6d.
30 Flagstaff, 2s. 6d. 20 Marke Valley, £2 16 3
30 Glaisdale, 20s. 20 Pennerley, £2 1/2
40 Birdseye, £1 13s. 6d. 15 Monydd Gorddu, £2 5s.
10 Hington, 25s. 25 West Chiverton, £1 16 3
20 Devon Consols, 22s. 6d. 20 Port Phillip, 18s. 6d.
50 Bedford United, 17s. 50 West Maria, 6s. 3d.
20 Frontino, 2s. 6d. 50 Parys Mount, 12s. 6d. 10 W. Godolphi, 25s.
30 Glaisdale, 20s. 60 Penstruthal, 10s. 10 West Milwr, 6s. 6d.
30 Hington, 25s. 60 Penstruthal, 10s. 10 West Milwr, 6s. 6d.

Buyer. Seller. Buyer. Seller. Buyer. Seller. Buyer. Seller.

30 Chapel House, £3 13 9 20 Ladywell, £2 16 3 20 Sweetland, £2 1/2
25 Cathedral, 2s. 6d. 20 Marke Valley, £2 16 3 20 Prince of Wales, £2 1/2
30 Glaisdale, 20s. 20 Pennerley, £2 1/2 25 West Chiverton, £1 16 3
40 Birdseye, £1 13s. 6d. 15 Monydd Gorddu, £2 5s. 10 R. Cook, £1 1/2
10 Hington, 25s. 20 Plymlimon, 7s. 3d. 10 W. Godolphi, 25s.
20 Devon Consols, 22s. 6d. 20 Port Phillip, 18s. 6d. 10 W. Godolphi, 25s.
30 Glaisdale, 20s. 60 Penstruthal, 10s. 10 West Milwr, 6s. 6d.
30 Hington, 25s. 60 Penstruthal, 10s. 10 West Milwr, 6s. 6d.

Buyer. Seller. Buyer. Seller. Buyer. Seller. Buyer. Seller.

30 Chapel House, £3 13 9 20 Ladywell, £2 16 3 20 Sweetland, £2 1/2
25 Cathedral, 2s. 6d. 20 Marke Valley, £2 16 3 20 Prince of Wales, £2 1/2
30 Glaisdale, 20s. 20 Pennerley, £2 1/2 25 West Chiverton, £1 16 3
40 Birdseye, £1 13s. 6d. 15 Monydd Gorddu, £2 5s. 10 R. Cook, £1 1/2
10 Hington, 25s. 2

THE NASCENT COPPER PROCESS.

This method of TREATING POOR COPPER and SILVER ORES is now in SUCCESSFUL OPERATION.

Licenses to use the Process may be arranged for by application to—

DR. STEPHEN H. EMMENS, 8, UNION COURT, OLD BROAD STREET, LONDON, E.C.

THE NASCENT COPPER PROCESS.

The recent disclosures that have taken place respecting the manner in which the business of our leading bankers is conducted, and the more than questionable artifices which are resorted to for the purpose of "floating" foreign loans, must have produced a serious effect upon the minds of investors. Money is plentiful, and seeks profitable employment, but the late revelations seem to have discouraged the owners of capital from all mere financial adventures. Hence it would seem that the present moment is one of favourable augury for the success of the industrial undertakings of the country. A well-considered industrial enterprise, if not overloaded by promotion money or preliminary expenses, has at least a solid substratum, and needs but ordinarily prudent and capable management to return a satisfactory rate of interest upon the capital invested, whereas mere monetary speculation is invariably more or less problematical in its results. In the long run, the wealth of individuals, as of nations, depends upon the extent to which they carry the art of production. Mere barter or exchange, or, as political economists would term it, the art of distribution, can never add to the sum of human wealth. All that it amounts to is the accumulation of riches by certain individuals at the expense of others, whereas any pursuit which involves the creation of wealth effects an absolute increase of all that constitutes material comfort and prosperity, and if pushed to an adequate extent would result in the annihilation of actual pauperism, and in the universal enjoyment of a physical ease which would, at any rate, afford the opportunity for the acquisition of knowledge, and a mental atmosphere favourable to the growth of virtue.

This leads us to the consideration of what truly constitutes a productive industrial enterprise, and a little reflection soon shows us that it must be either the extraction of something from the storehouse of Nature, or the addition of some particular shape or condition to a natural product. Agriculture, mining, and manufacture are the three great branches of human industry, and alone form the basis of wealth. All other pursuits are but the tossing to and fro of money—that is to say, the exchange and wear and tear of the counters representing the products of agriculture, mining, and manufacture. Science itself is triumphant only as it becomes the handmaid of industry, and is valuable only as it strengthens the mind and body of man to grapple with the world around him, and wrest to his own use and enjoyment the treasures of the universe. In no department of industry is this truth of greater importance than in mining, and in no department do greater rewards attend the student of nature. And yet we are forced to confess that of late years both agriculture and manufacture have made more progress than has mining, and in this country we have seen the yield of our mines gradually fall off while the products of our fields and factories have greatly multiplied. The chief cause of this has been the competition of foreign countries—a cause which must be expected to produce a greater effect from year to year. So long as we are content with the rude methods which suffice for working the virgin deposits of other lands we must expect to be outrivaled by the mere influence of labour and freight. If, therefore, we desire to retain that industrial supremacy which has hitherto stood us in such good stead, we must be prepared to avail ourselves of whatever help can be rendered by science, and thus outrun those who trust merely to natural riches of muscle and matter.

At the present time this question is of more than usual importance. An era such as mining has never yet beheld is ready to dawn. Capitalists have become disquieted with the tricks and uncertainties of the money market, and are ready to invest their funds in home industries if once they be assured that these enterprises are being efficiently and skilfully conducted. Mining in particular may derive encouragement and support, being, as it is, the mainstay of the national greatness of Britain, and the source of most of the individual fortunes of her citizens. Even the troubles that have of late affected one branch of mining—the tin mines of Cornwall—are but so many additional testimonies to the supreme importance of this industry, seeing that they result from the vast development of mineral wealth in the Australian colonies. If, then, we can in any way assist in leading the fertilising rills of capital over the fields of mining we shall feel we are fulfilling a legitimate mission.

On this occasion we propose to direct attention to a phase of mining which is believed to be well worthy the consideration of investors. We refer to the Nascent Copper Process for the treatment of low-class metallic ores. Generally speaking, mines are worked for some special ore, and this ore is sold to the smelters for treatment by what is known as the dry way—i.e., reduction in furnaces. This necessitates the output of a comparatively rich class of ore, as the expenses attendant upon furnace treatment and fusion are too great to admit of poor ores being dealt with at a profit. Accordingly, mining consists in the search for rich bunches of some particular ore, and thus a large amount of work is done in sinking shafts and driving levels through "poor" ground without any remunerative result. Hence also mining is of a speculative character, as it is only occasionally that a rich deposit of ore is found, and as these occasions are the only ones upon which dividends are declared, it follows that mining shares are generally looked upon as a species of lottery tickets—except, of course, where a very large amount of ground has been opened up so as to ensure an average output of ore sufficient to yield steady returns, as in the case of the Van, Great Laxey, Dolcoath, East Pool, St. John del Rey, Cape Copper, Richmond Consolidated, and other mines. These cases, however, are the exception. The rule is that the finding of rich bunches and the declaration of dividends occur at rare intervals, and that for the most part mining adventurers pay and hope, and hope and pay, until either their patience or their pocket is exhausted.

or their pocket is exhausted. And yet in the majority of cases this state of things need not obtain. Although lodes are seldom very rich except at intervals, yet most lodes contain throughout their whole extent a moderate percentage of metallic ores. If, then, it be possible to treat ores of a low percentage in such a manner as to extract their metallic contents at a cost less than the market value of such contents, it is obvious that the majority of mines could be worked at a profit, and an impetus would be given to mining such as never before has been the case. This is what the Nascent Copper Process does as regards ores containing arsenic, sulphur, copper, tin, silver, and gold; and when we state that by this process a profit of over 1*l*. per ton is now being derived from ores which not many years ago were thrown aside as halvans, or used to mend roads, we think a short description

In the first place we may remark that the process is in some respects similar to what is known as the chloridisation process, and which was introduced by Longmaid many years ago for the treatment of iron pyrites. This consisted in the roasting of the pyrites with common salt, the sulphur of the ore becoming converted by heat and oxygen into sulphuric acid which then unites with the sodium of the salt to form sulphate of soda. Henderson subsequently perceived that the same reaction would occur if the cupriferous pyrites imported from Spain for the manufacture of vitriol were roasted with salt after the burning for vitriol, and that in such case the chlorine liberated from the salt would unite with the copper contained in the ore to form a chloride of copper, which could be washed out by water or weak hydrochloric acid, the solution being then brought into contact with metallic iron so as to precipitate the copper. It was also found that traces of silver and gold were frequently present in the solution, and ultimately Claudet perfected a method of separating these metals by adding an equivalent proportion of iodide of potassium to the liquor, whereby the precious metals were precipitated previously to the copper. This industry has now attained important dimensions, upwards of 300,000 tons of

burnt pyrites being annually treated for the copper they contain, and in many cases the traces of silver and gold being also extracted, while the residue, which consists chiefly of oxide of iron, finds a ready sale as a material for the fettling of iron furnaces and other similar purposes. What was formerly an utterly waste product is thus converted into a source of great profit and utility.

What Henderson's and Claude's methods have done for the poor ores of Spain and Portugal the Nascent Copper Process is intended to effect for similar ores in this country. It is already in use with great success at the Emmens United Mines, near Callington, at the New Consols Mine near Stoke Climsland, and at the Tamar Reduction Works near Bear Alston, and now that nearly 12 months' working on a large scale has amply demonstrated its efficient and profitable results, it can only be a question of time for it to be adopted by most mines in this country and abroad. The details of the process can best be understood by a description of the manner in which it is carried out at some particular place, and for this purpose we will describe what we saw on the occasion of a recent visit to New Consols Mine.

This mine, which is one of the most remarkable in Cornwall, is situated on the sides of the valley of the River Tamar, about two miles to the west of the Devon Great Consols, and at the foot of Kit Hill, one of the highest eminences in the West of England, and consisting of a vast outcrop of granite from the midst of a killas district. The country, being thus highly congenial to the production of metallic ores, is traversed by a very large east and west lode, in many places upwards of 40 ft. wide, and composed chiefly of capel, carrying copper ore, arsenical pyrites, iron pyrites, silver, and tin. Until very recently the mine was worked as a tin mine only, the mineral being stamped in its raw state, buddled, burnt to free it from arsenic and sulphur, and then dressed for market, the result of which was that the tin alone was saved, and the whole of the other metals were lost, with the exception, of course, of the arsenic, which was deposited as soot in the flues leading from the calciners. With the present low price of tin it was found impossible to make that product pay the costs of the mine, and accordingly steps were taken to treat the ore more thoroughly, as follows.

The lode is stope down without any minute selection, and is rammed into a Blake's stone-breaker, which reduces it to fragments about the size of a walnut. It is then removed to an ordinary Cornish crusher, where it is ground to a coarse powder, in which state it is charged into long reverberatory furnaces. Here it is roasted until the whole of the arsenic and sulphur are burnt off, the former being subsequently deposited as arsenic soot in the flues, and the latter escaping into the air in the form of sulphurous acid gas. When this is effected the roasted ore is withdrawn from the furnace, and intimately mixed with about one-tenth of its weight of common salt, in which state it is ready for a further roasting in the chloridising furnaces. These are provided with revolving beds, and "flukes," or iron arms, fixed in the crowns, and projecting downwards, so as gradually to stir the ore from the centre to the circumference as the bed slowly turns. This second roasting has the effect of converting the copper and silver contained in the ore into chlorides, and for the purpose of extracting these the chloridised ore is removed to what is termed the "precipitating house," where it is placed in large tanks, and thoroughly lixiviated with hot brine, which has the property of dissolving chloride of silver, as well as the chloride of copper. The liquor is then run off into a second series of tanks filled with scrap iron, which at once precipitates the copper in a metallic state, and this in its turn precipitates the silver, so that the resulting precipitate which falls to the bottom of the tank consists of metallic copper and silver, mixed with a little oxide of iron and other foreign substance. This, when collected and dried, is packed into bags, and sold to the smelters. The ore from which the copper and silver have thus been washed out is then stamped and dressed or tin in the usual manner.

The process here described differs in several essential features from Henderson's and Claude's methods, and, we are informed, gives much better results when applied to the class of mixed ores usually found in Cornwall. At the Tamar Reduction Works, for example, it is found possible to extract large quantities of silver from the heap of debris accumulated on the floors of an abandoned lead mine, and containing about 8 ozs. or 10 ozs. to the ton. This debris does not contain enough copper to render it worth treatment by Henderson's process, and hence the silver would also lie untouched were it not that the Nascent Copper Process renders it possible to secure it. So, too, at the Emmens United Mines, low-class ores, similar to those which lie on a neighbouring property in vast heaps, quite disregarded, are being treated by the Nascent Copper Process, and yield a net profit of from 20s. to 35s. per ton.

It appears that the precipitate produced usually contains from 0 to 65 per cent. of copper, but the silver contents vary considerably, sometimes being as little as 70 ozs., and sometimes 300 ozs. per ton. This depends upon the richness in copper of the ore treated. If, for example, the ore were to contain 5 ozs. of silver per ton and 40 per cent. of copper, it would take about 32 tons of ore to make a ton of precipitate, and consequently the latter would contain $32 \times 3 = 96$ ozs. of silver; whereas if the ore only yielded 1 per cent. of copper it would require 64 tons to produce 1 ton of precipitate, which, however, would contain $64 \times 3 = 192$ ozs. of silver. The respective market values of the 2 tons of precipitate would be about 44, and 76 $\frac{1}{2}$, whereas it is evident that the cost of production of the latter must be double that of the former, inasmuch as double the number of tons of ore are treated. Hence it is evident that the richer the ore the higher will be the rate of profit.

As regards the cost of treatment, we are informed that the practi-

As regards the cost of treatment, we are informed that the practical experience of the process at New Consols, the Emmens United Lines, and the Tamar Reduction Works shows this to vary from 9s. to 16s. per ton, according to circumstances, while each unit of copper in the precipitate produces about 16s. 6d., and each ounce of silver 2s. 6d. when sold. It seems, therefore, that any ore containing 1 per cent. or upwards of copper, or a corresponding amount of silver, can be treated by the Nascent Copper Process at a profit. It may, moreover, be mentioned that the process does not injure the ore for smelting, but greatly facilitates its treatment for that metal, and hence it may prove a valuable auxiliary to many of the Cornish tin mines in their present hour of need.

NEW PROCESS FOR THE TREATMENT OF ORE.—Our readers have seen notices of a newly-discovered process for the treatment of ores, by which it is claimed that ores heretofore considered worthless may be worked in so close and inexpensive a manner as become a source of profit. Mr. Clarence Barrett, assayer of Park City, furnishes us with the details of the process as follows:—Capt. Selwyn's process for the treatment of lead, copper, silver, and gold consists in the reduction of ore to fine powder by any of the ordinary methods, the pulp is then introduced into a saturated solution of common salt and boiled by aid of free steam for one-half hour; then is added to the boiling mixture of salt and ore 3 per cent. hydrochloric acid and boiled half-an-hour. By suitable machinery the pulp is raised from the solution, allowed to drain, and washed with a solution of common salt, and finally water, until no reaction for silver or other metals is obtained by suitable reagents. To the same solution of salt is introduced new charges of pulp, and operation repeated as above stated, until the original solution is incapable of holding metals; they are then precipitated (and in the case silver lime water is excellent), the oxide may be collected, dried, and fused into blocks, and the salt solution, now a mixture of chloride of sodium and calcium boride, having been deprived of its metals held in solution, is used as an original solution, showing therefore the process to be continuous. Sometimes it is needful to coat ore with the required proportion of salt. The following are some out of number of experiments that I have made:—No. 1, 200 grains of ore, value \$4.85 per ton, treated as above, assay of residue \$00-33 per oz.; No. 2, 210 grains, assay value of residue, \$2-77; No. 3, 200 grains, assay value of residue, \$00-60. The use of the increase in No. 2 that sufficient care had not been exercised in shaking down, although the above are only laboratory experiments, yet I am assured both from documents shown to me by Capt. Selwyn, which prove that large quantities of ore are being successfully treated in England, and from the use of the process itself, that the results on the large scale will be quite equal.

If not superior, to those here given. Thus a process is placed in the hands of the mining community capable of giving a closeness of working never hitherto attained, and which is at the same time calculated to beat successfully with this comparative inexpensive plant, the whole of the low-grade ores and tailings of this western country. The only precaution necessary to be observed is that no metal should come in contact with the solution until it is desired to effect precipitation, and for this purpose wooden tanks, into the construction of which no metal enters, are exclusively employed, while to prevent the permeation of these by the salt a coating of pitch and tar in equal proportions, applied hot, amply suffices.—CLARENCE BARRETT: *Mining Gazette* (Utah).

VISITS TO THE MANCHESTER EXHIBITIONS—No. VI.

The drift of our last report was to show that if the stokers could always be relied on, the ordinary means for ascertaining the water level in boilers would be sufficient to be able to feed the boilers at the right time, or to have recourse to other means when the feed-pump or injector would not work. Since, however, experience teaches us that no man is infallible, and that numbers of innocent persons continue yearly to fall a sacrifice partly to the imprudence and partly to the negligence of the stokers, we believe the subject of safety apparatuses for steam-boilers cannot be brought too prominently before the notice of all steam users. We think, therefore, that abundant evidence is presented to show the necessity of providing every boiler with such mountings as will more effectually prevent accidents of this kind, for even however careful and intelligent the men may be to whose care boilers are entrusted, it is neither prudent nor safe to rely solely on their attention where so much is at stake. The use of fusible or composition plugs for the prevention of steam-boiler explosions arising from a deficient boiler water supply has of late years been so extensively recommended and largely employed, that we should only be doing an injustice to the Manchester Mechanical and Industrial Exhibition were we to allow the fusible plugs there exhibited to pass unnoticed, hence we may supplement the remarks made in our last report by the following observations.

Beginning with a description of Black's improved safety apparatus for boilers, we may remark that it consists of a simple copper tube in two parts. The under part is fixed perpendicularly on the top of the boiler and descends in the interior as low as the lowest admissible water level, whilst the upper and exterior part of the tube bends off at a height of 4 ft. at a right angle terminating in a coil; the lower end of the tube is open, the upper is closed. At the top end a tight fusing plug is inserted in a piece of brass provided with a conical part inside. This plug, composed of an easily fusible metal, is kept in its position by means of the screw of an alarm whistle in such a way as to close the opening hermetically. To ensure a perfect control, a key should be fastened by means of a seal to the coil on the top of the apparatus, as it affords the only means of infallibly attracting the attention of the chief or foreman to the negligence or mistake of the man appointed to feed the boiler. The efficacy of the apparatus is as follows:—The boiler being properly filled, the under part of the tube is below water, and by the increased expansion of the steam is partially filled with water, whilst the air contained in the tube is driven up into the coil and, according to Mariotte's law, compressed. The cooling which the water undergoes in the tube is asserted to be sufficient to maintain a temperature of 90° to 110° Fahr. near the plug, which is only fusible at 212° Fahr., consequently this temperature can neither fuse nor in any way injure the plug. In the water falling below the lower opening of the apparatus the steam penetrates into the tube in place of the water, fuses the plug, and escapes through the whistle, a low hissing sound is at first the result, caused at the beginning by a small quantity of water being driven through the whistle, but soon the tone becomes shrill and clear, so that the alarm signal can be heard at a great distance. The fireman on charge being thus informed of the approaching danger can prevent the further escape of steam by a quarter turn of a cock placed on the tube, and may then let water into the boiler in the ordinary way. On the cooling down of the apparatus the fresh plug must of course be inserted into the apparatus. Sure as the action of this apparatus must become whenever a deficiency of water occurs, and as interesting an exposé of neglect it then proves itself to be, still even where it is introduced too great an amount of responsibility is yet placed on the stoker or boiler tender. The description of the apparatus has already shown that its efficacy merely consists in its automatic low-water detecting properties; there is, however, another dangerous point in steam-boiler management which so often leads to such occurrences, the consequence of which are not to be calculated, and which always leave behind such dire reminiscences. The late disastrous explosion of one of our ship-builders' economisers, still fresh in our minds, furnishes but a recent example of the over confidence placed in boiler tenders as a rule; here we find an old experienced man with over 30 years experience of boiler management, and who had always been considered of a trustworthy character, the cause of the explosion. Surely when men of such practical standing can err and bring destruction both to life and property, it is time to "clip their wings," and place their responsibility in as narrow a compass as possible. The cause of this accident referred to was over heating, a compass, as our readers will be aware, from a deficient water supply in the economiser. Although the fore-mentioned apparatus may prevent the explosion of a boiler from over-heating, still it cannot be said to remove the constant threatening danger to an establishment and to the lives of the workmen, should the stoker let it in his head to unduly strain the boiler by working it at an unsafe pressure, which at once becomes apparent when it is remembered that in the fore-mentioned apparatus the air contained in the tube is driven up into the coil, and accordingly compressed. In case of over pressure we should consequently still have the perpendicular tube filled with water, and the cooling action of the tube might prevent the plug from fusing; in other words, we might increase the safe boiler working pressure to almost any extent without the plug fusing. The consequences would certainly be a sad delusion to the directors or proprietors who might formerly have thought that a certain amount of the heavy responsibility devolved on them was removed by the employ of this ironclad tide-guardian who was assumed to be continually watching over the safety and interests of all.

It is well known that the elasticity of steam is greater the greater its temperature, and to give an idea of the rapid increase of pressure with increase of temperature we may remind the reader that $-212^{\circ} = 1$ atmosphere— 15 lbs., $250^{\circ} = 2$ atmospheres— 30 lbs., $373^{\circ} = 3$ atmospheres— 45 lbs., $392^{\circ} = 4$ atmospheres— 60 lbs., $372^{\circ} = 5$ atmospheres— 180 lbs., $432^{\circ} = 6$ atmospheres— 300 lbs., so that it will be readily seen how extremely dangerous it is to allow the temperature to continue increasing without a sufficient outlet being provided for the steam formed. These forementioned relations existing between temperature and pressure at once demonstrate the applicability of fusible plugs, not merely for the detection of low water, but also for the prevention of increased temperature from excess of pressure. In most, if not all, plugs or fusible washers, excepting the one we are about to describe, the metal beginning to melt at a certain temperature allows an escape of steam, and reduces the temperature, preventing further melting (the temperature of the steam being much below the fusing point of the metal), and thus one part melts sooner than another. To remove this evil, the patent fusible alloy plug caps here imposed are so formed that on the softening of the alloy of which these plugs are composed, either owing to the deficiency of water or increased temperature from excess of pressure, they are instantly blown out. In this instance the alloy plug caps are proportioned to the temperature corresponding to the pressures to which the boilers are limited, and fuse and blow out when those limits are exceeded. The most effective situations for these plugs are upon the crowns of the furnaces, over the middle of the fires, so that either upon undue increase of pressure or deficiency of water the fires will be at once extinguished. From the preceding remarks it is evident that these patent fusible alloy plug caps may be also exerted with great advantage on the seat of safety-valves, and when so applied they will not only prevent the pernicious system of overloading or tampering with safety-valves, but by such an application the serious losses often occasioned by the sticking or inoperation of the safety-valves on their seatings would certainly be put to the place. Of course, here, as in almost every other case, cleanliness is of the utmost importance, hence to ensure the efficiency of these patent fusible alloy plug caps, and in order that proprietors of steam-boilers may have them properly applied to it, is advisable to provide duplicate or extra lids or caps, so that the owners, or some other responsible person, may see that those plugs which have been in use may be daily replaced by clean ones each time the boilers are cleaned.

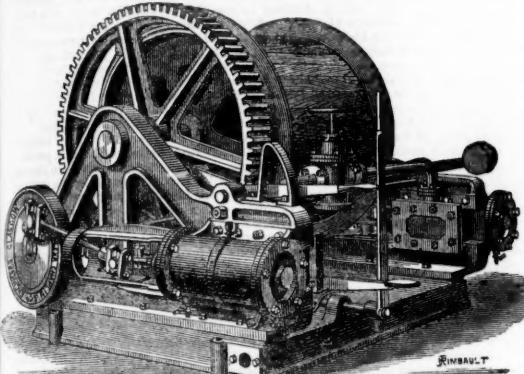
in use may be daily replaced by clean ones each time the boilers are cleaned. Martin's patent double-tube stoppers for multitubular boilers is exhibited by the engineering firm of Martin, Johnson, and McKenzie. The name implies, its object is to form a double stopper or plug for defective multitubular boiler tubes, and it is so arranged that it can be fixed in any defective tube when the fires are lighted and come up without the necessity of putting out the fires and letting the steam down. The great difficulty attending such work has been to stop the back end of the tube in addition to the front at the same time, but with the present contrivance this difficulty has been removed, as the following description of the apparatus will prove:—These tube stoppers consist each of two cast-iron conical plates, having a India-rubber ring at each end between the plates. The two stoppers of a multitubular boiler tube are kept apart from each other by a piece of iron monm from pipe. A rod, slightly longer than the boiler tube, runs from end to end of the tube, thus passing through the centre of the stoppers themselves; at each end of the rod a screw-thread with nuts is provided, and a tap-wrench, or spanner, is also fitted on the square end of the bolt. The length of the rod allows enough room at the front to be able to tighten the nut, so that when the nut is tightened the front of the boiler equal pressure is brought to bear on the two India-rubber rings, which are forced against the sides of the boiler tube by the form given to the conical plates, and thus a steam-tight joint is effectually made. One would think that the India-rubber rings were anywhere but in their right place, considering their proximity to the fire, but we are informed that a number of cases have proved that the India-rubber is not effected by this heat; nevertheless, this fact remains a mystery to us, and we feel rather dubious in accepting it. Amongst other exhibits for steam-boilers Tilloit's anti-priming apparatus, steam purifier, and super-heater; Day and Ogerby's improved boiler composition; Kershaw's non-conducting cement; and Allen, Harrison, and Co.'s gun-metal boiler mountings.

Passing on to the class of steam-engine exhibits, we find a horizontal

Passing on to the class of steam-engine exhibits, we find a horizontal engine with automatic expansion gear, of Garforth and Walker's make, to which we shall, however, refer when reviewing the various departments of the Exhibition. A specimen of Bourne's patent balanced high-pressure, high speed engine drives part of the machinery in the exhibition. The characteristic of this type is the adoption of a high speed of piston without tremor, by the employment of the method of balancing the momentum of the reciprocating parts. With regard to the proportions taken for all powers in this type of engine, we may state that the extreme length is about seven times the diameter, whilst the breadth is about four times the diameter of the cylinder. The width of face or strap is $1\frac{1}{2}$ times cylinder diameter. The cylinder is steam heated; the steam is recommended to be superheated and worked expansively, when we state that the power and performance of (say) a 9 ft-dia. in. cylinder

diameter engine are guaranteed to be 90-horse power, with 12½ in. length of stroke, and 65 ft. piston speed per minute, corresponding to 210 revolutions, it is evident that these statements would prove that this engine type is capable of developing a large power from a small size of engine. A 25-horse power horizontal high-pressure expansive engine, 18-inch cylinder bore, with Rigg's automatic expansive governor, is exhibited by Messrs. Wheatley Kirk and Price, of Manchester; it is a new power high-pressure horizontal engine, cylinder 10-in. bore, 20 in. stroke, driving a line of shafting. In a 10-horse power high-pressure horizontal steam-engine, exhibited by F. Whalley, of the Sedan Foundry, Leeds, the sole-plate, guides, pillar-block, &c., are formed in one, the throttle-valve, stop valve, and part of the governor forming another casting. The characteristic features of this engine are simplicity of construction, and its ready and certain action of taking up the wear on the guide-blocks to preserve the true line, and so tending to prevent leakage at the piston.

A novel little engine of 4-horse power, and taking up but 3 ft. by 4 ft. room, is exhibited by Messrs. West and Co., of London, which we hope shortly to illustrate in the Journal. Its application is referred for steam, water, air, or other power, and also for pumping, forcing, or air-compressing. The characteristic features in this type of engine are that the strain on the crank shaft is rendered constant in all positions of the crank, thus ensuring uniformity of action in every part of the engine. There being no dead points or centres, the engine will start from any position. No fly-wheel is required, and there are no connecting-rods, guides, or glands, the working parts being comprised in the piston, lever-crank, and valve. The engine may be also attached direct to the working shaft, without intermediate gearing: the construction of the machine, its small compass and weight, and its air-utilising power, appear to render it peculiarly adapted to mining and other operations. Its general construction may be thus explained:—A cylinder casting is provided inside, with six small cylinders, parallel to each other and the cylinder axis. In the place of the latter the crank-shaft is placed. Each of these smaller cylinders is provided with a solid piston, or ram, which are individually worked by the motive-power after the old single-acting system. One end of these rams, worked by the motive-power entering the small cylinders, is forced outwards of the cylinder, and presses against a moveable disc. The motive-power working only half the number of cylinder pistons at a time, the before-mentioned disc gives the rotation motion to the remaining half of these rams, and simultaneously communicates a rotary motion to the central crank shaft by a central arm working in the crank; thus the strain is rendered uniform, and no fly-wheel is required. The valve is a ring worked by an eccentric, and driven by it over the parts in the cylinder; the inside of the ring forms the steam-chamber, the outside being the exhaust, or vice versa. The firm of Deakin, Parker, and Co. show several specimens of their ordinary horizontal and vertical engines, which are, however, more intended for mill use.



The Glasgow firm of Alexander Chaplin and Co. exhibits a portable mining engine, as here illustrated. The makers claim it to be a new arrangement, and expect it to have advantages in simplicity and portability which will render it very useful to those engaged in mining, particularly for pit sinking purposes. It has a pair of 8-in. cylinders, 14 in. stroke, and a winding drum of 3 ft. 6 in. diameter, but no base, the whole resembling somewhat an enlarged steam winch. Each engine has a pair of cylinders, link motion for reversing, winding-drum, with suitable spur gearing, and a powerful foot-break for lowering. The cylinders are placed horizontally, and the whole compactly arranged on a cast-iron framing and sole-plate, which is adapted for being secured to foundations either of wood or stone. The steam is received from the boiler by a brass stop valve, with hand-wheel, shown, whence it is led by copper piping to each of the cylinders. The handles for the various movements are placed conveniently for the attendant, so that he may have the engine entirely under his control.

An improved type of portable engine for winding or pumping is exhibited by Messrs. Westray, Copeland, and Co., of Barrow-in-Furness. These engines are specially recommended by the makers for sinking pits, general winding purposes, inclines, &c., and are fitted with an arrangement for pumping, worked either from the spur wheel on drum-shaft, or by separate gear. The boilers have cross tubes, and are fed by an injector. A link motion for reversing is fitted to the engines, like the cranked shaft with end fly-wheel or spur-pins for pumping gear. The winding drum is driven by spur gearing, and has cast-iron sides lagged with wood. The cylinders are 8 in. diameter, the stroke is 14 in., and the drum is 4 ft. diameter, with powerful lever foot-break attached. It is to this engine that one of Alley's patent bearing feelers is attached. This little instrument is designed for detecting hot bearings before they reach calamitous results. The tendency of the age is partly shown in the adoption of high speed, and the prevention of hot journal bearing is a matter, therefore, of great importance, for although theoretically high speeds do not increase friction, practically they indefinitely increase the danger consequent upon the apparently harmless heating of a bearing. It is not asserting too much when we state that one of the most anxious cases of an engineer in charge of any machinery is the cool and easy working of his bearings, for these journals seem to possess a perfect instinct in revenging themselves upon the attendant for any want of attention. That complete breakdowns, and even casualties to life, are very often the result of a hot bearing has been proved over and over again by practical experience—the latest example being furnished by the late fatal fire at a Preston mill—therefore that an invention having for its object the prevention of overheating the journals was much required, and that it will be largely taken advantage of cannot be doubted. The action of this instrument confines itself partly to lubricating the overheated portion when necessary, and partly to giving a number of clear and distinct signals, which can scarcely fail to attract the attention of the engineer in charge. The active application and mode of action of this instrument is as follows:—A hole is bored through the busts of the bearing, and the feeler dropped into it, so that its tube end may restore the shaft surface. Inside of this tube is a renewable composition plug, which bears up a spiral spring. As soon as the heat of the bearing exceeds a safe working temperature, the composition plug melts, and the spring descends, ringing a bell fitted on the top of the feeler tube. It not only gives this alarm, but also provides extra lubrication, thus giving the attendant time to rectify the cause of heating. The mode of application varies to suit circumstances, and the wish of the engineer. In small bearings the size of the tube, is bored through, or nearly through, the cover; when not bored quite through the brass a small hole (say) ¼ in. diameter may be bored instead in the centre of the hole for receiving the tube, to allow the metal plug to run on and cool the journals. In large bearings it is usually preferred to put in two feelers, one at each end, and inserted in holes bored in the flanges of the brass, but in all cases the end of the tube should be brought as near the rubbing surface as possible. In moving bearings, such as connecting rod ends, this feeler should be inserted in its place with a clip, to prevent the centrifugal or other motion shaking it loose. The forementioned plugs are made to alarm at 130°, 135°, and 140° Fahr., the first being suitable for factories, the second for steamers in moderate climates, and the last named temperature for all sorts of machinery in hot climates. When used for condensers the alarm is given at a much lower tem-

perature. Other types of engines we might enumerate by describing the engines exhibited by Crowley Brothers, Oxley and Co., and Messrs. Baldwin, &c., but we pass over these as being of minor interest to the mining profession, and proceed to those engines which have not already been noticed in these columns. Amongst these we find Ramsbottom's patent displacement lubricator and Sutton's lubricator represented. The latter of these is composed of a strong glass globe, having a neck or outlet fitted with an elongated stopper of wood, through which passes a telescopic tube capable of being extended from 1 to 5 in. in length, to suit depth of cap or oil. At the top of the tube a small taper plug is fixed, passing through a small hole in a metal cap. The flow of oil for any size shaft or temperature of room is regulated by screwing the cup up or down. The advantage of this arrangement as compared with other lubricators is that, whereas most lubricators at present in use are professed to supply the oil by vibration, yet it is a well known fact that light shafting vibrates more than heavy shafts, though the latter require more oil; in the present lubricator, on the other hand, it is asserted that, the oil being drawn by suction, the quicker the motion the more suction, and thus the oil will feed according to the speed of the shaft, and might be easily regulated, as before explained.

The Beverley Iron and Wagon Company (Limited), Yorkshire, show a portable engine of 8-horse power, with steam-jacketed cylinder 9½ in. in diameter by 12-in. stroke. The cylinder and valve-chest are combined in one casting, and claimed to be made of a special mixture of the best iron. A governor and force-pump is attached, with water heater capable of heating the feed-water to 200° before entry into the boiler. The piston and valve-rods are of steel, the crank-shaft of the best Yorkshire iron. Two safety-valves are provided, one under lock and key, and by an improved arrangement both these safety-valves, as well as the attachments for signal whistle and pressure-gauge are combined in one casting, thus dispensing with the necessity of cutting separate holes for each of them in the boiler. The latter is mounted on patent wrought-iron wheels. All the wearing surfaces are large, and due care is taken to lubricate and protect them from dirt and dust.

John Pollard, of Ossett, shows some engine packing, and James Higginbotham, of Manchester, exhibits engine-cleaning waste. J. W. Lowther and Co. show some specimens of lubricating oils which are

in use for lubricating the machinery in the exhibition. Amongst steam-engine pistons, Whaley's patent spiral spring piston is shown, in which the ring of the piston is from 1 in. to 1½ in. thick. This ring is cut into three segments, which are pressed out simultaneously by three spiral springs acting in three different directions to ensure equality of pressure and equality of wear of the piston. The springs, when weak, can be replaced by new ones in a few minutes, and at a trivial cost. In Martin's patent piston the packing rings are expanded by the pressure of steam acting on the junk ring or piston at every stroke. The piston and junk ring are made conical, and bevelled on the edges, and as the packing rings are split, and made to correspond with the above, they are kept perfectly steam tight. In conclusion to the present notice, John M. Kellar, of Belfast, exhibits a model of a reversing gear for working the slide valves of steam-engines. In this arrangement the lead is constantly the same whether the engines are drawing full power of working on any grade of expansion, or going ahead or astern. The mechanism allows it to be applied direct from the crank shaft or separately, and it can also be brought by means of suitable wheel gearing in any convenient position from the crank shaft. Again, it may be applied direct to the governor, and worked as a throttle valve, acting direct on the slide valve.

[To be continued.]

Registration of New Companies.

The following joint-stock companies have been duly registered:

NORTH BUCKLEY COLLIERY AND FIRE-BRICK COMPANY (Limited).—Capital 15,000/-, in 10/- shares. To adopt and carry into effect an agreement made between J. Lasyee of the one part, and John Morrison, as trustee for the company, for the purchase of leasehold mines in the parishes of Mold and Harwarden, Flint, known as the North Buckley Colliery and Fire Brick Works. The subscribers are—J. Lasyee, Bucley, mining engineer, 25; W. Lees, Egerton-Terrace, Chester, gentleman, 25; C. R. Liversidge, Bryn, Flint, commission agent; W. Gregg, Chester, gentleman, 25; C. Oldfield, Manesty-lane, Liverpool, 10; J. Morrison, 40, Northgate street, Liverpool, 10, and W. McCall, Hunter-street, Liverpool, printer, 25. The company is registered without articles.

BRYNEIMI LEAD MINING COMPANY (Limited).—Capital 5000/-, in 5/- shares. To mine for copper, lead, tin, &c., under lands called Bryneimi, parish of Darowen, Montgomery. The subscribers (who take one share each) are—William Pearce, Green Bank Farm, Sefton Park, Liverpool, civil engineer; C. W. Thomas, Braintree-street, Fulbrook, Liverpool, law clerk; Thomas Glover, 43, Lodge-lane, Liverpool, accountant; H. S. Pilkington, Batavia Buildings, Liverpool, cotton broker; G. E. Gee, Edge Hill, Liverpool, gentleman; F. Anderson, 2, Canada Dock, Liverpool, timber merchant; W. Swanzy, 24, Chapel walk, Liverpool. Mr. Thomas Williams, of Meini, Gwynnor, Montgomery, from whom the task note of the property is to be acquired, is to receive six fully paid-up shares of 50/-.

METROPOLITAN SAFE AND STRONG-ROOM COMPANY (Limited).—Capital 5000/-, in 10/- shares. To receive valuables on deposit and for safe custody, &c. The subscribers (who take one share each) are—G. H. Elliott, 36, Parliament-street, architect; F. Warren, Holcombe House, Eliot Park, Blackheath, esquire; L. Cottam, 2, Winsley-street, engineer; R. D. Hughes, Bedford-row, solicitor; J. G. Bacon, 6½, Austinfras, wine merchant; G. L. Browne, 3, Brick court, Temple, barrister; and G. J. Harrison, 44, Hartington-street, engineer.

WILLIAM BLAND AND SONS (Limited).—Capital 60,000/-, in 10/- shares. To acquire the business of Messrs. William Bland and Sons, ironfounders, &c., of Chipfield, near Bury, Lancashire. The first seven subscribers are—Thomas Bland, Chesham Mount, near Bury, 100; J. H. Openshaw, Green Bank, near Bury, 100; E. Milnes, Seedfield, Bury, 100; J. Downham, Chesham Field, Bury, 100; H. Stead, Heyhouse, Holcombe, 100; J. O. Nell, Bury, 100; Stead, Bankhouse, Ramsbottom, 100.

MANLEY HALL WINTER GARDEN SOCIETY (Limited).—Capital 450,000/-, in 15/- shares. To receive valuables on deposit and for safe custody, &c. The subscribers (who take one share each) are—G. H. Elliott, 36, Parliament-street, architect; F. Warren, Holcombe House, Eliot Park, Blackheath, esquire; L. Cottam, 2, Winsley-street, engineer; R. D. Hughes, Bedford-row, solicitor; J. G. Bacon, 6½, Austinfras, wine merchant; G. L. Browne, 3, Brick court, Temple, barrister; and G. J. Harrison, 44, Hartington-street, engineer.

TEMPERANCE ARTIZANS' LABOURERS' AND GENERAL DWELLINGS ASSOCIATION (Limited).—Capital 50,000/-, in 1/- shares. To erect dwelling houses, baths, &c. The subscribers are—W. A. Tiddy, The Parsonage, Camberwell, 5; J. H. G. Steel, 51, Aldermanbury, 1; G. Guy, 17, Great Winchester street, Andrew Stein, Worthing, 1; J. M. Tolly, 3, Newman's court, Cornhill, 1; J. Walker, 123, Fenchurch-street, 5; and J. Paulett, 39, Bowyer-street, 1.

HYDE PARK MANUFACTURING COMPANY (Limited).—Capital 15,000/-, in 5/- shares. To carry on paper manufacture in Cheshire.

PLANT BROTHERS (Limited).—Capital 50,000/-, in 10/- shares. To purchase the goodwill of the business of Plant Brothers, of Birmingham and London. The subscribers are—G. W. Plant, New Edmund-street, Birmingham; T. W. Plant, New Edmund-street, Birmingham; T. Livesey Plant, Park Hill, Mosley; J. Broadbent, 63 Queen Victoria-street; C. Glover, 6, Spring Villas, Kilburn; A. A. McClary, 175, Kensington Park-road; D. E. McClary, 175, Kensington Park-road.

CITY OF LONDON LIGHTERAGE COMPANY (Limited).—Capital 2000/-, in 10/- shares. To carry on business as bargemasters, &c.

THOMAS WOOD AND COMPANY (Limited).—Capital 10,000/-, in 5/- shares. To acquire the business of Messrs. Wood and Co., of the Phoenix Ironworks, Midleton, Lancashire.

SOUTH CWMYSTWITH LEAD MINING COMPANY (Limited).—Capital 12,000/-, in 2/- shares. To purchase the lease of certain mines in the parish of Gwneus, Cardigan, granted by the Hon. G. R. Howard, a Commissioner of Woods, to Walter Eddy and others. The subscribers (who take one share each) are—E. C. Ravencroft, 5, Summer-street, Croydon; G. Bedford, Round Tree House, Upper Tulse Hill, stockbroker; H. Halford, Lombard-street, stockbroker; J. Darall, Vicarage-road, Leyton; Alexander Kerley, 14, Great Winchester-street, solicitor; E. G. Fisher, 1, Kingswood-road, Penge; A. C. Jecks, 18, Lansdowne-road, Upper Holloway. The directors are—Thomas Kent, 7, Cranberry-terrace, Southampton, esquire; E. Tilney, Moreton-on-Marsh, Gloucestershire, esquire; John Waterhouse, the Grange, Crumpsall, Manchester, engineer. The remuneration is not exceed 400/- per annum.

DINAS SLATE AND SLAB COMPANY (Limited).—Capital 50,000/-, in 5/- shares. To work slate quarries in the parish of Dinas, Pembroke. The subscribers (who take one share each) are—S. C. Wallace, Harrow-on-the-Hill; C. H. Murr, 6, Dowgate Hill, solicitor; F. E. Buffen, 12, Moorgate street, public accountant; R. C. Williams, 3, Adelaide-terrace, secretary; T. Kimpton, 3, Barnard's Inn, surveyor; J. S. Atkinson, 14, Queen-street, Hammersmith; W. L. Stewart, 140, Blackfriars-road. The directors are W. H. Palmer, Albert Villas, Sydenham; George Pearce, Cowley-road, Brixton; S. C. Wallace, Harrow; S. Cross, Bromsgrove House, Stockwell.

SOUTHERN LEICESTERSHIRE COLLIERIES (Limited).—Capital 100,000/-, in 10/- shares. To search for coal, cannel, slack, iron, &c., under land at Hugglescote, and Donnington-on-the-Heath, Leicester, and to carry on business as colliery proprietors and ironmasters. The first seven subscribers are—T. H. Gray, of Swannington, Leicester, colliery agent, 100; J. P. White, Osgathorpe, Leicester, ac-constant, 50; W. T. Stenson, Calvile, Leicester, engineer, 50; G. Thorne, Belgrave, Leicester, 50; J. Boam, Southfields, Leicester, colliery owner, 50; Joseph Chester, Swannington, farmer; and J. Hatchett, M.D., Ravenstone, 100. The price to be paid for the property is 34,441/- 13s., of which 24,441/- 13s. will be paid in cash. The directors are—T. H. Gray; Thos. Haddon, Union-passage, Birmingham; Joseph Hatchett; G. C. G. Lockhart, Luton, Beds; W. T. Stenson, J. P. White, and H. Workman, Bay's Hill, Cheltenham. The qualification for the first directors will be 50 shares, and for future directors 200 shares. The office at Coalville.

NEW FLINTSHIRE LEAD MINING COMPANY (Limited).—Capital 20,000/-, in 10/- shares. To acquire certain mineral concessions, comprising the mines lying under land at Fron Bryngolen Arddynwenn and Nerguys, near Mold. The subscribers (who take one share each) are—Charles Goodey, 4, Westminster Chambers, Victoria-street, merchant; P. H. Keary, Grove Hall, Great Sutton, Cheshire, gentleman; James Thompson, jun., 15, Lord-street, Liverpool, merchant; G. Hunstone, 52, Bury New-road, Manchester; T. E. Smith, 36, Marsh lane, Bootle, architect; E. Hales, jun., Corn Exchange Chambers, Seething-lane, merchant; D. M. Lee, Preston Brook, Cheshire, agent. This company is registered without articles.

NEW GUINEA COMPANY (Limited).—Capital 100,000/-, in 10/- shares. To develop and further colonisation of the island of New Guinea. The subscribers (who take one share each) are—W. Nash, 12, Queen Victoria-street; W. Dorey, 11, Queen Victoria-street; E. A. Dakin, 64, Victoria-street; W. Manley, Fairburn, Villas, Croydon; W. B. Penneyman, 17, Devonshire-road, Greenwich; P. Tarbutt, 13, Worbury-crescent, Notting Hill; and H. Warwick, 7, Culmore-road, Peckham.

LIFE-SAVING DRESS COMPANY, BOYTON MERCRIMAN PATENTS (Limited).—Capital 120,000/-, in 10/- shares. To acquire patents relating to a life-saving dress, &c. The subscribers are—W. G. Richardson, Mildmay Chambers, Bishopsgate street; M. B. Adderley, 27, Bedford-place; T. Marin, Box Grove, Gulliford; R. E. F. Craufurd and Co., Pall Mall; J. Pordage, 45, Tooley-street; W. Wright, 35, Great St. Helen's; J. R. Morison, Mildmay Chambers, Bishopsgate street.

NEW TOWN MANURE COMPANY (Limited).—Capital 50,000/-, in 10/- shares. To deal in manure. The subscribers (who take one share each) are—G. Davison, Horbury House, Notting Hill; J. Tanner, Tulse Dale Lodge, Tulse Hill; R. S. Tomlin, 84, King William-street; B. P. Daniels, 7, Poultney; R. Milburn, Lower Tulse Hill; A. Good, 7, Poultry; R. Hooper, 1, George-street, Mansion House.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for July is 16. They have consumed 1746 tons of coal, and lifted 12,400,000 tons of water 10 fms. high. The average duty of the whole is, therefore, 47,800,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Crever and Wheal Abraham—Sturt's 90 in.	Millions	52·0
Ditto ditto —Pelly's 80 in.	Millions	50·5
Ditto ditto —Willyams's 70 in.	Millions	54·5
Dolcoath—85 in.	Millions	57·5
West Basset—Thomas's 60 in.	Millions	51·3
West Wheal Frances—58 in.	Millions	50·1

HOLLOWAY'S PILLS—PREVENTABLE DISEASES.—Many are the maladies which at all seasons and in all districts silently work their way into the human system through miasma, noxious vapours, and deteriorated air, which could all be dispensed by a few doses of these admirable pills. The vitiated gases enter the lungs as we breathe, and contaminate the blood, which will convey the poisonous particles throughout the body unless some purifier, such as these pills, be taken to cleanse it. Let the poison lurk where it will, thither will it be followed and confronted by this never-failing antidote. Holloway's Pills expel all harmless matters from the circulation, and cleanse the solids likewise from all treacherous impurities tending to produce disease.

Meetings of Public Companies.

LYNNVI TONDU AND OGMORE COAL AND IRON COMPANY.—The third annual meeting of shareholders was held yesterday, at the City Terminus Hotel, Cannon-street.

Mr. ALEXANDER BROGDEN, M.P., in the chair.

Mr. J. J. SMITH (secretary) read the notice convening the meeting and the minutes of the last meeting, which were then confirmed. The report of the directors was taken as read.

The CHAIRMAN: Gentlemen—Upon the report itself I have very few remarks to make. The directors have endeavoured to frame the accounts and the report in such a way as to be explanatory of themselves, and not to require very much explanation from the chair. They do contain that explanation to any one who has given them a careful perusal, and they show very clearly that the two concerns (which were amalgamated at

As to holding our meetings in Manchester and London alternately, that is really only a matter of railway journey for me; and if it be for the convenience of the shareholders generally that the meetings should be so held, I have no objection whatever. I did not, however, consider it right or proper that this meeting should be held in Manchester until an expression of opinion on this subject had been obtained from the shareholders. I have no objection to going and attending a supplementary meeting in Manchester for the purpose of personally explaining in the most open and candid manner all the affairs of the company, and to answer any questions that may be put to me. I personally wish to obtain the confidence as well as the support of the shareholders, and I feel that any personal trouble would be very well expended if I could remove any feelings of dissatisfaction from the minds of any of the shareholders. (Hear, hear.) With regard to the recommendation that a general manager should be appointed, to devote the whole of his time to the business of the company, and that his remuneration depend mainly on profits, I can tell you that to that I shall give my most strenuous opposition. I have no two feelings about the question. If a general manager is appointed to this concern—a manager who shall take the rule out of the hands of the directors—first of all I want to know who that man is to be; and secondly, I want to be informed whether his experience has been of working in that locality. We have experienced managers that have been with us 25 years, who know the seems to be worked, who know the process of manufacture, and who know the entire trade. There they are in charge of all technical work. Are we to put a man of comparatively moderate experience over their heads? They are not the men—not one of them—who would stand any general manager being put over them. They are men who would obtain appointments with the greatest ease in any part of South Wales, but who, from their long service with us, have an attachment to the concern, and will remain with us so long as confidence is placed in them; but if that confidence be removed they will go to-morrow, and then you know the result of such a change. I never knew a change of management but what was productive at least for some time of bad results, because you have the new managers adopting new modes of working. Moreover, I am one of those who believe that when you have a good man you ought to keep him, and not put a stranger over him, and place us at the mercy of a man who has to learn all his work, and acquire all his experience. I do not mean to speak with any disrespect to our late manager at Llynvi, for I think he is a very competent and clever man; but I have read over to you the results of the working at Llynvi. Well, there was a general manager there, as good a man as you would probably find. I have read over to you the results of the Llynvi working from the beginning, and I ask you to contrast that with the other concerns which have been in the hands of men who are carrying them out in a satisfactory manner. I have another objection: the directors, or those who are managing the property for the shareholders, have no knowledge of the affairs of the company except what is obtained through the manager's medium; and if he comes or goes we are in the dark as to the concern, as to all its peculiarities, as to its exact position, and as to what has to be done in the future. I say again, to that recommendation I shall offer my most strenuous opposition. I speak, gentlemen, with a perfect knowledge of the concern when I say that those who have started this idea, which is the idea of a doctrinaire and inexperienced man, that if it be adopted they will never cease to regret results that must inevitably follow. (Hear, hear.) Well, then, the third recommendation is that the remuneration and fees of the Chairman and directors should depend entirely upon the profitable working of the concern. It was only at the last meeting that we had a resolution of an entirely different character, which was duly proposed and carried. It was proposed by Mr. Swallow, and seconded by Mr. Adams, that the fees of the board should not depend upon the profitable working of the concern, but that they should be fixed. It does look, I must say, rather childish, that questions of this secondary nature should be turned into matters of dispute, while questions affecting the real interests of the concern, and the results to be obtained, are comparatively neglected. The directors consented to all you asked at the last meeting, and I think they should now be asked to change the manner in which the question was then settled. Upon the question of guarantee I have nothing to say. It is a question that does not affect the profitable working of the concern. It is not in our hands to control it, and it seems a premature question to raise, but which, if raised, I should not care one way or the other about it, inasmuch as it cannot affect the prosperity of the company. Now, there was a second circular issued, dated also from Southport, which contains statements very misleading and incorrect. With regard to its second paragraph, to the effect that the board is chiefly composed of vendors, their relations and personal friends, I would wish to state that that is as inaccurate as it is a perfectly incorrect statement. There is no concealment of the fact that my brother, myself, and M. Barchard are the vendors, and Mr. Barchard is very properly a director from the very large interest he holds in the concern. My brother and myself are the other vendors here, and have the management of the concern—subject to the approval of the board—very much under our charge. But with reference to the other members of the board. The directorate consists of nine; therefore, as regards the other six gentlemen, they were all of them perfect strangers to us. They were gentlemen put on the board on the recommendation of Mr. Chadwick; and I have never had a business transaction or connection either by relation or business with any one of them. So that if there could be a board composed of people who would exercise a judicious and a careful watchfulness over us as vendors it is the six gentlemen who are here, who constantly attend at the board, and have only to meet three gentlemen, two of whom are brothers, and actively taking the duties of management into their own hands, the other gentleman holding a very large interest in the concern, and a position of very high honour in the country. I think I have shown you that is a statement that its authors would never have put forth had they known the exact facts of the case. Then with regard to the question of holding 20 shares. That is a question of the qualification as named in the original articles of association, and that cannot be altered except by the regular process of special meeting, and due notice of such alteration of the Articles. Then with regard to the fourth paragraph, which urges upon the shareholders the adoption of measures which shall bring about changes in the management, the part to which I desire to direct attention is that dwelling upon the necessity of careful and constant supervision in the management. I have already told you how the technical work is carried on down at the works. My brother spends by far the largest part of his time there, constantly exercising a strict supervision over them. I am in daily communication with the heads of all departments, and with Mr. Smith, who has the conduct more particularly of the commercial portion of the company's business, and seeing the very difficult and trying time that we have passed through, I think it is subject for congratulation that we have been able to conduct our commercial business without making—I was going to say a single bad debt—but I may say, bad debts not amounting in the whole to £500. (Cheers.) Of course it is impossible to be in two places at once. The place where the commerce has to be conducted is very important, and requires as much attention—not attention in detail, but in judgment—as to where the manufacturing has to be conducted. But with reference to the actual technical management of the collieries and ironworks, my brother, as I have said, spends the greater part of his time there. We keep our own residences, not at the expense of the company, but at our own expense; and in every way, for it is not only our duty but to our interest to try and make the concern as profitable as possible—we seek to promote the company's success. (Hear, hear.) We are by far the largest shareholders, and if anybody has an interest in carrying the concern on at a profit it is ourselves; we have no interest of an antagonistic character to yours, and if any gentleman can show us how to improve the position and prospects of the company we shall be only too happy to adopt his suggestions, and admit him to a seat at the board. But it is idle and reprehensible to attempt to set up a management and a board without just cause, and to attempt to instil distrust into a company, unless it can be shown that good results will accrue therefrom. There were some resolutions forwarded to us from the meeting held in Manchester for proposition at the present meeting, but they contain subjects which, as Mr. White knows very well, would have to be the subject of special meeting and special notice, and which cannot be dealt with at the present meeting. For the information of the meeting I may as well read the resolutions, but they cannot be discussed to-day. They are—1. That George Swallow, J. H. White, and C. J. Hurst be nominated for the election of directors at the ensuing meeting. 2. That the qualification of a director shall be the holding of not less than 50 shares instead of 20 as at present in his own right, and being registered as the owner thereof. 3. That Article 78 be rescinded, and that the following be adopted in lieu thereof. There shall be paid to the directors for the time being as by way of remuneration for their services such sum as the company in annual meeting shall from time to time determine, the said sum to be dependent upon the profitable working of the concern. 4. That this meeting being dissatisfied with the results of the last year's operations is of opinion that immediate steps should be taken to secure more efficient management for the profitable working of the concern. 5. That the fifth and sixth clause in the Article on the proposed amendment of the Joint-Stock Companies Act, as published in "Chadwick's Investment Circular" be henceforth adopted by this company. With regard to the last recommendation, I can only say that it is not only absurd, but utterly profitless.

In reply to a question, the CHAIRMAN said that the total rentals derived from the cottages and the royalties and ground rents upon the Llynvi and Tondu properties amounted to £322. A SHAREHOLDER: Are there any cattle belonging to this company? The CHAIRMAN: Oh, yes. Another SHAREHOLDER: What is your brother paying for the rent of his house? The CHAIRMAN: He is paying none; he is not living there. The total amount of stock is valued at £6582; that includes cattle, sheep, and farming produce. I beg to move, gentlemen, "That the report and accounts as presented be received and adopted."—MR. GEORGE MACNAIR seconded the resolution.

Mr. FIRMSTONE desired to elicit some further information. He was in a position of some difficulty—first, inasmuch as he was quite unacquainted with the locality of the property, or of the exact nature of the tract that was carried on there; and secondly, because he was unacquainted with the whole of the board of directors, with one exception only, and therefore, with that exception, he was unable to pass any opinion, or rather to form any opinion, as to the practical knowledge and ability that were brought to bear in the management of the business of the company. But he felt bound to say, as one who had had a very long practical experience in the coal and iron trade, these accounts were to him eminently unsatisfactory, unsatisfactory because he saw a very serious loss when they (the shareholders) had every right to expect a considerable profit, and unsatisfactory because the details and explanation given were so meagre as to render it very difficult, if not a total impossibility, to draw any conclusions as to the reason of such a very different state of things to what they had led him to expect would be likely to occur, and what he, for one, expected would ensue. But although the loss upon the joint companies (for it was hopeless to try to disperse and distinguish them) appeared to reach the very considerable sum of £25,000; looking at the figures themselves he was afraid the real loss was very much greater. In the first accounts presented by the directors there had been a sum of something like £50,000, added to the works and estate. There was some explanation given of that sum, but in the accounts published in 1874 there was a very considerable sum, amounting, he thought, to £70,000, of which there had been no explanation given, but simply characterised as "additions." In the present accounts £25,000, appeared as the additions to works during the past year. These additions represented in the aggregate a sum of £15,000, while the company had divided only about £25,000. Now, he questioned very gravely whether they had had the right to divide at all. He noticed that the additions made to capital last year were represented partly by outlay in pit sinking and new wagons. He desired to know whether the amount of £70,000 charged in respect of wagons was for the absolute purchase of wagons or payment on account.

The CHAIRMAN explained that the sum represented the instalments on capital account for the purchase of wagons on the deferred principle. The instalments were spread over a period of five years. The capital sum was only represented in the interest was charged to revenue.

Mr. FIRMSTONE: Have you purchased any coal during the past year? The CHAIRMAN: Some small coal, but it may be said that practically we have purchased none.

MR. CHADWICKS observed that in one or two of his remarks he had done injustice to the company, from not being thoroughly conversant with the facts of the case. In regard to the wagons, he contended that the accountants were quite right in their method of charging capital with the cost of the cars, and revenue simply with the additional price charged as interest on the deferred payments. There was nothing, he maintained, charged to capital account in this company but what was properly and fairly chargeable in that way. With respect to the charge for opening out new pits, that had been an entirely new operation, and would be charged to capital were they starting a new company or conducting the business of the oldest company in South Wales. As to the company's assets and liabilities, although the latter amounted to £23,000, the former exceeded £40,000, the amount at which Mr. Firstone had estimated them, for in addition to that sum there was a large amount of stock due to the company, besides £15,000, cash at bankers, and £5,000 standing as a reserve fund. He wished to add, as an independent shareholder, and one who had incurred more responsibility about this company than anybody else, that the whole affair had been carried out in as fair, as straightforward, and as honourable a manner as possible. In defence of the advice he had given in regard to the valuation of the materials taken over from the old Llynvi Company, he desired to say that they had employed Mr. John Jones, secretary of the Iron and Steel Institute and Ironmasters in Middlesborough, and in selecting him they had selected the best and most competent man of his time.

A SHAREHOLDER: Who valued the Llynvi property?—MR. CHADWICKS: Messrs. Dobson, Brown, and Adams.

The SHAREHOLDER: Then you do not consider yourselves responsible for the valuation of the Llynvi property, for which it appears we had paid far too dearly?

Mr. FIRMSTONE: I do hope that there is nothing like accommodation paper in this; but if that confidence be removed they will go to-morrow, and then you know the result of such a change. I never knew a change of management but what was productive at least for some time of bad results, because you have the new managers adopting new modes of working. Moreover, I am one of those who believe that when you have a good man you ought to keep him, and not put a stranger over him, and place us at the mercy of a man who has to learn all his work, and acquire all his experience. I do not mean to speak with any disrespect to our late manager at Llynvi, for I think he is a very competent and clever man; but I have read over to you the results of the working at Llynvi. Well, there was a general manager there, as good a man as you would probably find. 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Well, then, the third recommendation is that the remuneration and fees of the Chairman and directors should depend entirely upon the profitable working of the concern. It was only at the last meeting that we had a resolution of an entirely different character, which was duly proposed and carried. It was proposed by Mr. Swallow, and seconded by Mr. Adams, that the fees of the board should not depend upon the profitable working of the concern, but that they should be fixed. It does look, I must say, rather childish, that questions of this secondary nature should be turned into matters of dispute, while questions affecting the real interests of the concern, and the results to be obtained, are comparatively neglected. The directors consented to all you asked at the last meeting, and I think they should now be asked to change the manner in which the question was then settled. Upon the question of guarantee I have nothing to say. 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I have another objection: the directors, or those who are managing the property for the shareholders, have no knowledge of the affairs of the company except what is obtained through the manager's medium; and if he comes or goes we are in the dark as to the concern, as to all its peculiarities, as to its exact position, and as to what has to be done in the future. I say again, to that recommendation I shall offer my most strenuous opposition. I speak, gentlemen, with a perfect knowledge of the concern when I say that those who have started this idea, which is the idea of a doctrinaire and inexperienced man, that if it be adopted they will never cease to regret results that must inevitably follow. (Hear, hear.) Well, then, the third recommendation is that the remuneration and fees of the Chairman and directors should depend entirely upon the profitable working of the concern. It was only at the last meeting that we had a resolution of an entirely different character, which was duly proposed and carried. It was proposed by Mr. Swallow, and seconded by Mr. Adams, that the fees of the board should not depend upon the profitable working of the concern, but that they should be fixed. It does look, I must say, rather childish, that questions of this secondary nature should be turned into matters of dispute, while questions affecting the real interests of the concern, and the results to be obtained, are comparatively neglected. The directors consented to all you asked at the last meeting, and I think they should now be asked to change the manner in which the question was then settled. Upon the question of guarantee I have nothing to say. It is a question that does not affect the profitable working of the concern. It is not in our hands to control it, and it seems a premature question to raise, but which, if raised, I should not care one way or the other about it, inasmuch as it cannot affect the prosperity of the company. Now, there was a second circular issued, dated also from Southport, which contains statements very misleading and incorrect. With regard to its second paragraph, to the effect that the board is chiefly composed of vendors, their relations and personal friends, I would wish to state that that is as inaccurate as it is a perfectly incorrect statement. There is no concealment of the fact that my brother, myself, and M. Barchard are the vendors, and Mr. Barchard is very properly a director from the very large interest he holds in the concern. My brother and myself are the other vendors here, and have the management of the concern—subject to the approval of the board—very much under our charge. But with reference to the other members of the board. The directorate consists of nine; therefore, as regards the other six gentlemen, they were all of them perfect strangers to us. They were gentlemen put on the board on the recommendation of Mr. Chadwick; and I have never had a business transaction or connection either by relation or business with any one of them. So that if there could be a board composed of people who would exercise a judicious and a careful watchfulness over us as vendors it is the six gentlemen who are here, who constantly attend at the board, and have only to meet three gentlemen, two of whom are brothers, and actively taking the duties of management into their own hands, the other gentleman holding a very large interest in the concern, and a position of very high honour in the country. I think I have shown you that is a statement that its authors would never have put forth had they known the exact facts of the case. Then with regard to the question of holding 20 shares. That is a question of the qualification as named in the original articles of association, and that cannot be altered except by the regular process of special meeting, and due notice of such alteration of the Articles. Then with regard to the fourth paragraph, which urges upon the shareholders the adoption of measures which shall bring about changes in the management, the part to which I desire to direct attention is that dwelling upon the necessity of careful and constant supervision in the management. I have already told you how the technical work is carried on down at the works. My brother spends by far the largest part of his time there, constantly exercising a strict supervision over them. I am in daily communication with the heads of all departments, and with Mr. Smith, who has the conduct more particularly of the commercial portion of the company's business, and seeing the very difficult and trying time that we have passed through, I think it is subject for congratulation that we have been able to conduct our commercial business without making—I was going to say a single bad debt—but I may say, bad debts not amounting in the whole to £500. (Cheers.) Of course it is impossible to be in two places at once. The place where the commerce has to be conducted is very important, and requires as much attention—not attention in detail, but in judgment—as to where the manufacturing has to be conducted. But with reference to the actual technical management of the collieries and ironworks, my brother, as I have said, spends the greater part of his time there. We keep our own residences, not at the expense of the company, but at our own expense; and in every way, for it is not only our duty but to our interest to try and make the concern as profitable as possible—we seek to promote the company's success. (Hear, hear.) We are by far the largest shareholders, and if anybody has an interest in carrying the concern on at a profit it is ourselves; we have no interest of an antagonistic character to yours, and if any gentleman can show us how to improve the position and prospects of the company we shall be only too happy to adopt his suggestions, and admit him to a seat at the board. But it is idle and reprehensible to attempt to set up a management and a board without just cause, and to attempt to instil distrust into a company, unless it can be shown that good results will accrue therefrom. There were some resolutions forwarded to us from the meeting held in Manchester for proposition at the present meeting, but they contain subjects which, as Mr. White knows very well, would have to be the subject of special meeting and special notice, and which cannot be dealt with at the present meeting. For the information of the meeting I may as well read the resolutions, but they cannot be discussed to-day. They are—1. That George Swallow, J. H. White, and C. J. Hurst be nominated for the election of directors at the ensuing meeting. 2. That the qualification of a director shall be the holding of not less than 50 shares instead of 20 as at present in his own right, and being registered as the owner thereof. 3. That Article 78 be rescinded, and that the following be adopted in lieu thereof. There shall be paid to the directors for the time being as by way of remuneration for their services such sum as the company in annual meeting shall from time to time determine, the said sum to be dependent upon the profitable working of the concern. 4. That this meeting being dissatisfied with the results of the last year's operations is of opinion that immediate steps should be taken to secure more efficient management for the profitable working of the concern. 5. That the fifth and sixth clause in the Article on the proposed amendment of the Joint-Stock Companies Act, as published in "Chadwick's Investment Circular" be henceforth adopted by this company. With regard to the last recommendation, I can only say that it is not only absurd, but utterly profitless.

A SHAREHOLDER: Who valued the Llynvi property?—MR. CHADWICKS: Messrs. Dobson, Brown, and Adams.

The SHAREHOLDER: Then you do not consider yourselves responsible for the valuation of the Llynvi property, for which it appears we had paid far too dearly?

Mr. FIRMSTONE: I do hope that there is nothing like accommodation paper in this; but if that confidence be removed they will go to-morrow, and then you know the result of such a change. I never knew a change of management but what was productive at least for some time of bad results, because you have the new managers adopting new modes of working. Moreover, I am one of those who believe that when you have a good man you ought to keep him, and not put a stranger over him, and place us at the mercy of a man who has to learn all his work, and acquire all his experience. I do not mean to speak with any disrespect to our late manager at Llynvi, for I think he is a very competent and clever man; but I have read over to you the results of the Llynvi working from the beginning, and I ask you to contrast that with the other concerns which have been in the hands of

Original Correspondence.

MONEY AND FINANCE.

Sir.—What is to become of our money? Yesterday's *Gazette* shows that the Bank of England held no less than 15,699,680/- in notes unemployed in the tills of its banking departments—in fact, so much idle capital. In addition thereto the vaults contained bullion amounting to 29,327,905/-, with a minimum rate of discount reduced to 2½ per cent., while advances are made on the Stock Exchange and in Lombard street on unquestionable securities at 1½ to 2 per cent. (short dates). The price of Consols is 94½ to 94¾, and likely to advance to par, or even 2 to 3 prem., during the autumn months, unless the place of Europe becomes threatened, of which, unhappily, there are incipient elements discernible; and though volcanic action is at zero, the suppressed fire is known to exist. The plethora of unemployed money has scarcely any other safe vent or medium of absorption than Consols, Government securities, and railway debentures; for recent events have proved that foreign stocks are as rotten and subject to violent and adverse fluctuations as the veriest concoctions that ever emanated from fertile schemers on the Stock Exchange. The Chancellor of the Exchequer may possibly, during his tenure of office, have the opportunity, if he possesses the borrowing powers, of reducing the interest on Consols and other Imperial securities from 3 to 2½ per cent., and thus practically pay off one-sixth of the national debt. A stern chase is proverbially a long one; we shall never pay off the principal of our indebtedness, but it is within the sphere of hope that we may diminish the interest.

The position of the Bank is very strong—on the debtor side. The notes issued are 43,627,950/-; public deposits, 4,098,246/-; other deposits, 25,238,537/-; bank, post, and other bills, 371,757/-: total, 73,336,490/-—while the credits are rest, or accumulated gains, 3,394,723/-; Government securities, 13,486,952/-; other securities, 17,769,676/-; notes in the tills, 15,699,680/-; bullion, 29,327,905/-: total, 79,678,936/. The active note circulation is 27,928,270/-, which is covered by bullion in the Bank's vaults, with a surplus of 1,399,635/. The dealings with its private customers are on the debit side 25,238,537/-, and on the credit side 17,769,676/. The whole of the remaining operations of the Bank are confined to the Government and in bullion.

The indebtedness of the six London joint-stock banks at the date of their last half-yearly meetings was 111,045,499/. Just reflect, Sir, upon the extent of responsibilities involved, and compare the value of a "portfolio" of bills after recent revelations and proceedings as a security against them! We all know that the paid-up capital upon these six joint-stock banks is merely 9,159,970/, and small as that amount is, it is momentous to ascertain upon sound and unquestionable data whether it is practicable—nay, possible—for joint-stock banks to maintain ruling dividends unless they foster and encourage speculative finance. We say not; for the fierce competition existing for business lead them into endless and unhealthy risks. Hence joint-stock banking is associated with hazards equally with shipping, building, engineering, constructive, manufacturing, or any other industrial pursuit connected with the trade and commerce of the country. The only difference between the banker and the artisan, machinist, or miner is that the former works with the capital of others, while the latter three have to rely on sinews and the sweat of their brows. Bankers have to tread the labyrinths of restless financial operations, often conducted without judgment, and as frequently imperative in their continuance, for the absence of support to those merchant pawnbrokers with whom they become involved is certain collapse. Hence it transpires at times that the merchant becomes the banker, and all the risks are vested in the latter, instances can be adduced *ad infinitum*; enough for the present to refer to Messrs. Gledstanes, three years back, and Messrs. Collie of recent notoriety; and who can state with any degree of certainty what further revelations may transpire between this and Christmas?

The stock markets are in an extremely sensitive condition, yet Government, railway, and sound industrial undertakings command advancing quotations; the latter must be unquestionable in character, remunerative as regards the present, and expansive in respect to the future. There are many of this class to which we could draw attention, though probably not more effectively so than in the cases of the Leeds and Liverpool, and the Staffordshire and Worcester canals, which pay respectively 20 and 17½ per cent.; Trust and Agency of Australasia Land, 20 per cent.; Consett Iron, Midland Iron, Staveley Coal, and Thorp's Gawber Hall Collieries respectively, 66½, 80, 33, and 40 per cent. Then, again, we have Exchange Drapery, 40 per cent.; Muntz metal, 25; Patent Nut and Bolt, 15; Wheatman and Smith, 25 per cent.; while among progressive mines we have the Patelley Bridge, in Yorkshire, and the Treleach and Llandilo, in Carmarthenshire, likely to prove three brilliant prizes at no very distant date.

We may mention for the information of our readers that the value of the several Government (home and foreign) stocks are as follow—

	Prices per 100/- stock.
English 3 per cent. Consols.....	94½ to 94¾
Austrian 5 per cent. Consolidated.....	65 to 64
Costa Rica 8 per cent., 1871	13 to 15
Egyptian 7 per cent., 1873	75½ to 75¾
French 5 per cent. Rentes	65½ to 66
Greek 5 per cent.	13 to 15
Honduras 10 per cent.	3 to 5
Italian 5 per cent., 1861	71½ to 71¾
Japanese 9 per cent.	100 to 111
Peruvian 5 per cent.	39 to 39½
Russian, 1871, 5 per cent.	103 to 104
Sardinian 5 per cent.	86 to 88
Spanish 6 per cent.	62 to 64
Turkish 5 per cent.	35½ to 36
United States 5 per cent. 10-40 Bonds.....	104½ to 105
Venezuela 3 per cent., 1862	9 to 11

We are strongly impressed with the value of lead mining in Wales, Shropshire, Yorkshire, Durham, Derbyshire, Isle of Man, and various other parts of England, Scotland, and Ireland, when compared with many of the foreign stocks referred to. The reader, however, can judge for himself, we only quote the facts to guide him aright.

RICHARD TREDINICK,
43, Bishopsgate-street, Aug. 26.
Dealer in Stocks and Shares.

(For remainder of Original Correspondence see this day's Supplement.)

RHYMNEY IRON COMPANY.

By this time Mr. HALLIDAY, we should imagine, must be hugely content with the mischief which he has wrought in South Wales. He has given the Welsh ironmasters and the Welsh iron companies a preciously hard series of blows, and as regards the dividends of companies they have successively collapsed. The Rhymney, the Ebbw Vale, and our old friend, the Nant-y-Glo and Blaina, have had all to succumb to the false political economy which Mr. HALLIDAY has so successfully enunciated. The ironmasters and the iron companies of South Wales have been expected to work at a loss, and for a time at least they have obeyed the mandates of the delegates, and have submissively made up balance-sheets with a balance at the debit instead of at the credit of the year's operations. Thus the Rhymney Iron Company, hitherto looked up to as one of the soundest and most prosperous of the Welsh joint-stock corporations engaged in metallurgical industry, has just been compelled to announce to its proprietors for the year ending June 30, 1875, a loss of 16,495/. For years the Rhymney has been a dividend-paying concern, but it has had to succumb like its neighbours, and its rest of undivided profits has been reduced to 108,220/. The directors have, indeed, to report not upon a year of regular work, but upon one during an important part of which operations were entirely suspended, while during the remainder they were so irregular as to frustrate all efforts to secure economy in the cost of production. For about 15 weeks, with the exception of raising some coal for house purposes and the pumping-engines, the company's steam coal collieries were entirely stopped, while in the bituminous collieries no coal was raised for 19 weeks. The effect of this cessation in the supply of coal was the blowing out of the blast furnaces, while the forges and mills produced no iron for three months. During the remainder of the year, in consequence of a scarcity of orders and several interruptions, the production of

finished iron only averaged about 800 tons per week, against the customary quantity of 1100 tons per week.

The total production of finished iron for the year ending June 30, 1875, was 31,830 tons, against 54,880 tons in the year ending June 30, 1874. Comparing the rate of wages current on June 30, 1875, with the corresponding rate current on June 30, 1874, we find that a reduction of 22½ per cent. was effected for the 12 months. Of this reduction, however, only 10 per cent. extended any lengthened period, the remaining 12½ per cent. only dating from May, 1875, so that the company had not practically the benefit of this second reduction during 1874-5. But while a reduction of 22½ per cent. in wages during 1874-5 seems *prima facie* to hold out some prospect of relief to the company, the fact cannot be overlooked that the price of iron has been further declining of late. The fall in the price of railway iron for the year ending June 30, 1875, was not less than 20s. per ton; and, had not the company's orders averaged for the period in question more than the maximum price of the year, the result of the 12 months' operations must have been still more unfavourable. It may also be remarked that in all probability the sale price of both iron and coal would have been forced down to a much lower rate but for the suspension in supply in consequence of the great lock-out. A further reduction in wages is in contemplation, and negotiations have been commenced with this object between the employers and the colliers of South Wales; the employers point to the stern argument of facts as unmistakeably showing that both the coal and iron trades of the Principality cannot be continued upon the present basis. Yes, thanks to Mr. HALLIDAY and his supporters in the press and otherwise, industry in South Wales is threatened with extinction—an extinction from which it can only be saved by a return to something like sound principles of political economy. Perhaps the most alarming feature just now in the South Wales iron trade is the almost complete loss of its American connection. The United States were formerly the largest customers of South Wales for its iron, but for the last two years they have taken but a trifling amount of it; and their ironworks, fostered by a protective tariff, are now more than competent to supply all the requirements of existing American railways.

THE GEOGRAPHICAL CONGRESS IN PARIS, AND MCKEAN'S ROCK-DRILL.

At the Geographical Congress held in Paris M. Favre exhibited the McKean Rock-Drill as the machine to be employed for the future boring of the St. Gotthard Tunnel. The following is an extract from the address delivered by M. Louis Sautier, Civil Engineer, before the Congress, in the name of the Enterprise:—

Les principaux appareils mécaniques qui avec les pompes à comprimer l'air doivent assurer le succès de l'entreprise du Gothard sont les machines à perforer le roc. Dès celles inventées par M. Sommeiller pour le percement du Mont Cenis, il en est apparu un très grand nombre et les plus plates d'entre elles ont été expérimentées au Gothard. Les perforatrices McLean, Ferroux, Dubois et François, sont celles qui ont donné les meilleurs résultats. Au commencement de cette année à la suite d'expériences comparatives très complètes la perforatrice McLean modifiée d'après les données des premiers essais, paraît avoir pris d'éditement le pas sur ses rivales. L'entreprise vient d'en commander 60 à M. McLean et en a envoyé une à l'exposition des sciences géographiques.

This matter is fully referred to in another column.

MCKEAN'S ROCK-DRILL AT THE SEVERN TUNNEL.—Extract from report of meeting of the directors of the Great Western Railway Company:—"The heading for the Severn Tunnel has been driven to a length of more than 400 yards from the shaft, 345 yards having been driven during the past half-year. It is now about 100 yards in the sandstone, which forms a favourable ground for the purposes of the tunnel. The engineers have experienced no difficulty in dealing with the water which they have met with."

EXPORTS OF COAL.—By the Monthly Circular of Messrs. Higginson, of Liverpool, we learn that the quantity of coal exported in July was 1,416,073 tons, against 1,293,873 tons in the corresponding month of 1874, showing an increase of 122,200 tons. The particulars are—From the Northern Ports, 637,004 tons; Yorkshire, 102,473 tons; London, 4030 tons; Liverpool, 69,631 tons; Severn Ports, 427,377 tons; and Scotch Ports, 175,558 tons. The increase was—Yorkshire, 17,014 tons; Liverpool, 6319 tons; Severn Ports, 106,545 tons; Scotch Ports, 27,797 tons. The decrease—Northern Ports, 27,166 tons; London, 8309 tons. Total, Jan. to July, 7,210,353 tons; corresponding month last year, 6,934,549 tons; increase, 275,804 tons.

THE SUB-WEALEND EXPLORATION.—Mr. Henry Willett, F.G.S. prepares those who take an interest in Sub-Wealden exploration for the announcement that the work is brought to a close. Mr. Willett says the committees have "succeeded beyond their fondest anticipations in solving the original problem, and can now state with certainty that palaeozoic rocks do not exist at a depth variously estimated at from 700 ft. to 1700 ft." From 1670 ft. to 1750 ft.—the depth now reached—the strata are shattered and very soft, greatly retarding the work, and seriously impeding any prospect of attaining a much greater depth. "The last cores, although not exceeding 1 in. in diameter, have abundant traces of extinct life. Lingula, Thracia, Cardium, and Ammonites prove that this life is identical with that which has hitherto been supposed to denote that of the Kimmeridge era." Although at any moment a change of strata may be reached, Mr. Willett is not sanguine that he ever will be able to report more than that Kimmeridge clay has been discovered in Sussex, and that this clay is very thick.

IMPROVEMENTS IN SAFETY-LAMPS.—The invention of Mr. A. B. BOULENOT, of Paris, consists in replacing the Davy or safety-lamp ordinarily used in mines containing fire-damp by improved lamps supplied with air from outside the mine. For this purpose a fixed pipe or pipes is conducted down the mine, and branches from it are led into all the workings. Compressed air is forced down the pipe by means of air-pump worked at the surface, and the improved lamps are screwed to the air-pipe where necessary by means of couplings and straight or elbow pipes provided with stop-cocks. The improved lamp consists, first, of a metal air vessel which receives the compressed air, and into the upper part of which an oil vessel drops, fitted with a burner, and a wick (either flat or tubular) which can be raised or lowered by means of a nob outside the lamp. This nob can be disconnected from the oil vessel when it is required to remove the latter. Above the air vessel is cemented a tube or cylinder of glass or crystal, the upper end of which has fitted round it a metal ring carrying a cover formed of two pieces of wire-gauze a short distance apart. The glass cylinder is protected by a cage of sufficient strong metal bars. A reflector is provided carried by a ring fitting round the air chamber and moveable into any desired position. Through the centre of the gauze cover an opening is left which can be closed by a stopper, and through this opening a light can be introduced consisting of a tube or sheath containing an inner spring clip, which can be raised or lowered by a ring or handle at the top of the tube from outside the lamp. This spring clip carries a match, which can be ignited by rubbing its end upon a rough surface prepared for the purpose at the top of the oil vessel. When the match is ignited the lamp wick is lighted from it, and the match is then extinguished by drawing the spring clip into the tube, which can then be removed from the lamp, the opening in the cover being closed by its stopper; and the lamp will then continue burning so long as the supply of oil and air continues. A valve may be provided in the cover. When necessary this improved lamp may be screwed to a portable receiver of compressed air or oxygen, instead of to a fixed air-pipe.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Aug. 17.	Rhosyddol	20	£13 19 0	Nevill, Druce, and Co.
21.	Llanerchyrnraur	6	15 7 6	Walker, Parker, and Co.
	Gertrude	5	14 0 6	Panther Lead Company.
23.	Aberdaunant	10	13 15 0	
25.	Wye Valley	30	14 3 6	Adam Eyton.
	Bog	45	14 11 0	Walker, Parker, and Co.
	Pennery	80	14 14 0	ditto
26.	Roman Gravels	100	15 5 6	ditto
	ditto	25	15 1 6	ditto
	ditto	25	15 5 0	Adam Eyton.
	Rookhope	35	13 1 6	John Walton and Co.
27.	Van	200	15 1 0	Walker, Parker, and Co.
	ditto	100	15 18 6	ditto
	ditto	50	14 18 6	Adam Eyton.
	ditto	50	15 0 6	Sheldon, Bush, and Co.
	ditto	50	14 19 6	ditto
	ditto	50	15 0 6	Weston, Son, and Co.

Date.	Mines.	Tons c. q. lb.	Price per ton.	Amount.	Purchasers.
Aug. 14.	Conduffrow.	16 13 0 26	£ 793 10 0	—	
	Wheal Uny	12 11 0 3	—	583 13 0	—
	West Godolphin	9 19 3 2	£47 7 6	473 4 0	Bolitho.

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CAR

SOUTH ROMAN GRAVELS.—J. W. Powning, Aug. 25: Sheffield : The sinking of the engine-shaft is being carried on regularly by nine men, and the ground becomes more settled and easier to cut as we move away from the ridge recently passed through; present depth below the 30 fms. 5 ft. 6 in. There is no other change worthy of note.

SOUTH TOLCANNE.—J. Vivian and Son, J. Paul, Aug. 25: At the engine-shaft we are cutting plat at the 40 fm. level, preparatory to driving north and south. In the 30 cross-cut, north from engine-shaft, the rock is still more favourable for progress, and we continue to meet with rich lumps of yellow and black copper ore.

SOUTH WARD.—R. Goldsworthy, Aug. 25: No change to notice in the 90 fm. level cross-cut. In the 72 south we are cutting through the lode we are in about 4 ft., but have not yet reached the eastern wall. The first 2 ft. in was hard capel, the remainder friable spar, peach, mundic, and stones of lead, but not sufficient to value; altogether a very promising lode.

ST. AGNES CONSOLS.—J. and Wm. Vivian, Aug. 26: The lode in the 72 fm. level, driving east from north cross-cut at the engine-shaft, is 2½ ft. wide, and worth for tin and copper 8d. per fathom. In the same level, driving west of south cross-cut, it is 3 ft. wide, kindly in appearance, and producing rich stones of tin. In the rise behind this end it is also 3 ft. wide, and worth 8d. per fathom for tin. The engine-shaft is divided and complete to the 84 fm. level, and we are now pushing on the 84 cross-cut south with all practical dispatch.

ST. DAVIDS.—John Jones, Aug. 24: Jones's Shaft : The trench on the 80 yards level is now down 4 yards. The vein is very wide; we do not know its exact width. The ore ground is fully 3 ft. wide, but the ore is not so strong as it has been, although from the nature of the soil we may expect ore in almost any quantity, the ground being so congenial.—Edwards's Shaft: The two men sinking this shaft have sunk 7 yards on it, so that it is now 35 yards deep; it is very hard for sinking. I intend letting a few yards to them on contract this week. The other men working in this shaft are searching for lead, and they get a little, but not in large quantities. I expect, however, to be in pretty good ore in the level shortly. I have put two men to drive the level southward, and I trust we shall be in lead there before long.—Flat: The two men have sunk the shaft about 11 yards, and have come to a drift, which they are now clearing. After this they expect to be in fresh ground, when we have reason to hope they will get lead. There were 8 tons round ore sold from this small shaft when it was worked in.

ST. PATRICK.—William Francis, Aug. 25: Good progress is being made still in driving the 90 yard cross-cut north from engine-shaft, in the same favourable measures, with the advantage of the cross-course to drive in, now wider than the level, and filled with compounds of various kinds, all of which are conducive to the deposit of mineral ore. The 120 yard north is moving on satisfactorily; in the white limestone occasionally east and west partitions are met with.

TANKERVILLE.—Arthur Waters, Aug. 26: Were I to write a long report I could do no more than show that the mine is looking well throughout, which is the case. The lode in the shaft sinking, below the 152, is looking very well, and there is a grand lode in the winze below the said level west of shaft. Surface work going on well.

TREVARACK.—J. Pope, Aug. 25: In the 85 west the lode is 3 ft. wide, composed of capel, prian, and iron, with stones of tin. In the 85 east the lode is 1½ ft. wide, with the same appearance as the west end. In the 74 west the lode is 3 ft. wide, composed of iron, peach, and mundic, with stones of tin.

TYLLWYD.—Capt. Paul, Aug. 26: The 20, west of winze, still maintains its character and size, and will produce as last reported, fully 1 ton per fathom of lead ore. The stopes are without change to notice. Machinery going well. Dressing, &c., being urged on as fast as possible, and we hope to sample another 20 tons on the first Tuesday in September. The shaft is down 12 fms. 1 ft., and the men are now putting down the lift of pumps, which will be complete in a few days, when cross-cuts will be started towards the south and middle lodes.

VAN CONSOLS.—J. Roach, Aug. 26: The cross-cut at the 4 fm. level is driven north from shaft t in the lode 14 ft. There is no alteration in its composition yet, nor indication of being near the north wall. It is hard for driving, with water percolating from the forebreast, which is favourable for the production of lead. We have commenced sinking under Murray's shaft from 15 fm. level, under deep adit, and making good progress towards 25 fm. level. All other work going on energetically; the machinery throughout the mine in good order and performing its work well.

VERON.—S. Harper, Aug. 21: The engine-shaft is sunk below the 100 yard level about 5 fms. 2 ft.; the lode in the shaft is still about 18 in. wide, spar intermixed with lead and blonde ore, although a very promising looking lode, not sufficient to value, it is highly desirable to continue the sinking to the 120 yard level. The 100 yard level is driven west from the engine-shaft 12 fms. through a lode varying in size from 1 ft. to 2 ft. wide, at times producing a little lead, but not to value; for the last 5 or 6 yards the character of the lode has shown a very promising appearance for producing lead, and is also more favourable for progress; although at the present time no value can be set on the lead seen, I would recommend continuing the driving on the level west. The 8 yard level has been driven west of No. 2 winze about 8 fms., the first 8 or 10 yards we drove through soft unstratified ground, but the lode produced some very good lead, leaving good lead in the roof for about 6 or 7 yards long, worth about 30 cwt., to the fathom, but the unstratified state of the ground makes it difficult to say if it will continue up very far, as it is in close proximity with the large swallow which we have met with in the present month. The lode in the heading of this level is very small, and the ground is very hard for driving; suspended for the present. We have put up a rise a few yards west of No. 2 winze to prove if the lead continued or otherwise; the west end of this rise is in good lead; the east end poor. From this rise we communicated to what we term the intermediate level, the roof of which is producing some good lead for 4 yards or 5 yards in width in places, worth 15 or 20 cwt., to the fathom. What would recommend is to see this section of ground on tibute—i.e., so much for every ton of lead that men rise at the same time I recommend the sinking of a winze or sump in bottom of the 80 yard level, near No. 2 winze, so as to prove the shoot of ore gone down in bottom of this, allowing so much for the sinking and so much tribute, so as to make the men careful of the lead they cut. Then, again, if we could be allowed to drive this intermediate level, east of No. 2 winze, by two men, we should, perhaps, meet with the run of lead in that direction.—Surface: We have cleaned but little lead in the past week, having been engaged in repairing the rods and washing over the lead-tail; in a rough way my estimate is from 4 to 6 tons in the house and about 1 ton down in the level. I have two men and two boys at surface removing some stuff, &c., about the new engine pool, as ordered by the directors when here last week, and I shall commence the trial of pits, &c., next week as directed. We are removing the 3-ft. and refixing on a 9 ft. pump at the engine-shaft to day; I will send you the estimate cost in timber, raising stone, and mason work for the engine-house, as ordered in the early part of next week.

WEST CHIVERTON.—R. Southey, R. Nancarrow, Aug. 26: In the 150, west of Batters', the lode is improved in size and quality; now 3 ft. wide, and worth 10d. per fathom. The 140, west of Batters', on south lode, is still in good lead ground, being worth 12c. per fathom, evidently showing that this shoot is lengthening in depth. In the 140, east of Batters', on south lode, the lode is 2½ ft. wide; worth 10d. per fathom, and looking promising for further improvement. The 140, west of Batters', on north lode, is worth for lead and blonde 8d. per fathom. The lode in the winze sinking below the 140 is producing good work for lead. The 130, west of Batters', on north lode, is worth for lead and blonde 12c. per fathom. The 130, east of cross-cut on north lode, is worth for lead and blonde 10d. per fathom. In the 140 cross-cut, south of Hawke's, we think we have to-day touched the wall of the south part of south lode, but shall be able to speak more definitely of it in our next. In the 140, west of Hawke's, the lode continues much the same as when last reported, being worth about 10d. per fathom. In the 130, west of Hawke's, on north lode, the lode is worth for lead and blonde 10d. per fathom. In the 130, east of Hawke's, on south lode, there is no change worth of notice. The sinking of Glub's shaft is being carried on very satisfactorily, and is now fully 5 fms. below the 130. Our blonde sale to-day amounts to 1000c.; this is quite up to our anticipations, and in conjunction with our lead sale will give us a total of over 2000c. for the last four weeks' returns.

WEST GODOLPHIN.—John Pope, Aug. 25: Caunter Lode: The 60 south is driven by two men, at 5 ft. 10 in. per fathom; value of lode, 5d.—Wilson's Lode: The 60 east is driving by six men, at 4 ft. 10 in. per fathom; value of lode, 15d. The 50 east is driving by four men, at 4 ft. 10 in. per fathom; value of lode, 10d. The 50 west is driven by four men, at 4 ft. 10 in. per fathom; value of lode, 10d. for tin and copper. The 50 winze east is sinking by six men, at 6 ft. per fathom; value of lode, 15d. The 40 west is driving by two men, at 3 ft. 10 in. per fathom; yielding low price tin-stuff. The 40 east is driving by four men, at 3 ft. 10 in. per fathom; value of lode, 6d. for tin and copper. The 40 stop east is stowing by six men, at 2 ft. 2 in. per fathom; value of lode, 20d. The 30 east is driving by two men, at 4 ft. per fathom. The 20 east is driving by two men, at 3 ft. 10 in. per fathom. The deep adit east is driving by two men, at 3 ft. per fathom. The new shaft is sinking by four men, at 3 ft. 10 in. for 14 fms.—Tribute: Two pitches stowing by seven men, at 7 ft. in 12. One pitch stowing by four men, at 8 ft. 6 in. 1 ft. One pitch stowing by two men, at 8 ft. in 12. Three pitches stowing by nine men, at 10 ft. in 12. Standard 45c. per ton.

WEST MARIA AND FORTESCUE.—W. Skewis, Aug. 26: Willesford's shaft is being sunk below the 104 with all speed. There is no change to notice in the 104 east since last report, as the men are engaged in driving by side of the lode. In the 93 east the lode is 4½ ft. wide, worth 12c. per fathom for copper and mundic. The men are getting fair wages in the pitches in back and bottom of this level west. The other pitches are looking encouraging, and most of the men are making wages. We shall finish repairing the old kilns this week, and hope to commence burning coke and mundic next week.

WEST MILFWR.—W. Francis, Aug. 25: The cross-cut, south from West Meadow shaft, is still being driven speedily in the most favourable ground for ore deposits, and every desirable indication is being continually met with, the measures being interlocked with joints and seams filled with clay, spar, and oxide of iron, and occasionally with fine crystals of quartz.

WEST TANKERVILLE.—Arthur Waters, Aug. 26: We have commenced to slope from the end of the boundary shaft in the 63 fm. level, and shall resume sinking the shaft as soon as the stoppings are out of the way. The 63 end south is in a lode worth 22c. per fathom. The 50 south is worth 15c. per fathom. No. 1 slope in this level, south of shaft, is worth 30c. per fathom: No. 2 slope is worth 20c. per fathom; and No. 3 slope is also worth 20c. per fathom. The slope in the 46, south of shaft, is worth 14c. 10s. Nothing new elsewhere. The water in the old mine is in fork 11 fms. below deep adit. There is a long pool to get out between the adit and 28 fm. level; after that our work to get to the 46 will be easy. We have to-day sampled two tons lead ore, for sale on Thursday next.

TELEGRAM: A slope in the 50 has improved to 50c. per fathom. The 65 is improving the last 13 fms., being worth from 20c. to 30c. per fathom. The lode in the shaft is worth 20c. per fathom. Two other stopes in the 50 and one in the 56 are worth 20c. per fathom.

WHEEL OREBORG.—J. Andrew, Aug. 25: There is no change in the 120 east, & I cleared from the stopes, but I think it will all be removed to-morrow, when we shall begin sinking at once. The lode in the 108 east has improved in appearance, and is yielding mundic and stones of yellow copper ore. The lode in the 72 east is 3 ft. wide, composed of quartz, capel, and mundic, and looks very promising. No change in the 48 east. The lode in the stopes in the back of the 48 has improved during the past week, and is now 3 ft. wide, worth 15c. per fathom.

WHEAL GILBERT CONS.—J. James Pope, Aug. 15: The slope in the back of the adit is still worth 10c. per fathom. In the cross-cut south we are expecting to cut the lode daily.

WHEAL GRENVILLE.—E. Hocking, W. Bennett, Aug. 21: The lode in the 160, east of cross-cut, is worth 30c. per fathom. The slope above the 160 east is worth 15c. per fathom. The lode in the 150, east of cross-cut, is worth 12c. per fathom. The slope below the 150, east of winze, is worth 14c. per fathom. The slope in the 150 east is worth 10c. per fathom. The lode in the 150 west is worth 10c. per fathom. The

rise above the 130 east is worth 18c. per fathom.—Old Tin Lode: The lode in the north shaft sinking below the 130 is 2 ft. wide, producing stamping work. The lode in the 130, east of north shaft, is 18 in. wide, yielding saving work.

WHEAL KITTY (St. Agnes).—S. Davey, John Williams, Aug. 21: New Shaft-Pryor's Lode: The men are making fair progress in driving the 154 cross-cut south. The lode in the 142, west of shaft, is worth for tin 7c. per fathom. The lode in the 142, driving east of shaft, is producing good work for the stamps. In the 142, driving north of shaft, on the counter, the lode is worth for tin 12c. per fathom. The lode in the 130, driving west of shaft, is worth for tin 10c. per fathom. The lode in the 118, driving west of shaft, is worth for tin 14c. per fathom. The lode in the 100, driving west of engine-shaft, is worth forth for tin 7c. per fathom. No lode has been taken up in the 90, east of engine-shaft, since last report. We have suspended the driving of the north adit level west for the present, and have put the men to sink a winze below, but no lode has been taken up as yet.

WHEAL MARY HUTCHINGS.—H. Miners, Aug. 25: I have much pleasure in informing the shareholders that within the last few days a very important change has taken place in the 32, east of engine-shaft, which is only about 6 in. wide a short time since, is now from 20 in. to 2 ft. wide, and producing good saving work for the stamps; from its appearance and character I do not think we have any reason to doubt what it will prove as productive as in the levels above. We have communicated the rise in the back of the 22 with the stopes in the bottom of the 10, and the men are now engaged for awhile in driving and stopping on the main lode at the deep adit, west of Arnola shaft, for the purpose of raising mundic. The new south or Hemerian lode is also a little improved since my last report, and is now about 2½ ft. wide, producing fair quality stuff for the stamps. The mine through-

WHEAL PRUSSIA.—Richard Smethem, August 25: The lode in the shaft sinking below the 30 is worth 20c. per fathom. The lode in the 30 west end is worth 12c. per fathom.

WHEAL UNY.—W. Rich, M. Rogers, Wm. Rich, jun., Aug. 21: The lode in the 160 end, west of engine-shaft, yields stones of tin. The 160 east is worth 8c. per fathom. The 150, west is worth 12c. per fathom. The 150, east of Goodings, is unproductive, but we have good tin ground in the level above, east of this place. The 140, east of King's, is worth 8c. per fathom. The 130 east is worth 10c. per fathom. The 120 east is worth 7c. per fathom. The 110 east is worth 8c. per fathom. The 100 east is worth 8c. per fathom. We have put in the fourth boiler at Hind's engine, and as soon as the new condensing work is fixed shall put this engine to work.

WYE VALLEY.—J. Kitto, Aug. 14: The improvements referred to in my last report in the 10, east of engine-shaft, and in the adit level almost immediately over are still as good as ever. We have commenced a stope in the back of each level, which are worth fully 3 tons of lead ore per fathom respectively, and in a winze which has been sunk from the adit to the 10 there is also a very good lead, but we cannot commence stopping here until a communication is effected, but this I hope to accomplish by the end of next week. The lode in the 22 west has improved in character, and is yielding some ore, and judging from present appearances I think it will further improve shortly, and become profitably productive. The same remarks apply to the adit level east, which is looking exceedingly kindly, and I am strongly of opinion that we are getting near a fresh run of ore ground. I am pleased to say that our prospects for the future are very good, and have far exceeded my expectation. We have sampled to day 30 tons of lead ore and 50 tons of blonde, being the produce of the last four weeks. This will leave a good profit on the month's working.

ECHOES FROM THE MINING MARKET.

The depression in tin shares which we have so long recorded in these columns has at last, to a great extent, passed away, and there is an active and advancing market for all stock. It appears to be the general opinion in Cornwall that the worst is now over, and that we are on the eve of a very important upward movement. We cannot say we are sanguine that such is the case, for it is impossible to lose sight of the fact that an improved price for tin will stimulate foreign supplies, and this alone would be sufficient to keep an important check upon the market. It is true the costs of our home mine have within the last year materially decreased—labour, iron, and coal being much cheaper; but the decline in tin has been so great that the benefits which would have accrued with only a moderate tin market have been completely nullified; so that whatever has been gained by the reduction in costs has been lost many times over by the repeated falls in tin.

The copper market continues firm, with an advancing standard. Lead, on the other hand, is slightly weaker; this metal, however, is, as a rule, so steadily remunerative—the fluctuations, unlike those in tin and copper, being generally comprised within moderate limits—that shares are very slightly affected by the movements in the metal. The mines mentioned in our last remarks—Tankerville, West Tankerville, Roman Gravels, Penzance, Plympton, and Pateley Bridge—remain in good request at firm prices. From Cornwall the following will be found the chief items of intelligence:—Bottallack has made a profit on the quarter of 704c. The copper market continues firm, with an advancing standard. Lead, on the other hand, is slightly weaker; this metal, however, is, as a rule, so steadily remunerative—the fluctuations, unlike those in tin and copper, being generally comprised within moderate limits—that shares are very slightly affected by the movements in the metal. 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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUG. 27, 1875

	COPPER.	£ s. d.	IRON.	per ton.	£ s. d.	£ s. d.
Best selected	p. ton	89 0 -	90 0 0	Bars Welsh, in London	7 15 0	8 0 0
Tough cake and tile..	88 0 0	90 0 0	Do., to arrive	7 15 0	7 17 6	
Sheathing & sheets..	94 0 0	95 0 0	Nail rods	8 5 0	9 10 0	
Bolts	92 1) 0	93 0 0	Staffd. in London..	8 15 0	9 19 0	
Bottoms	95 0 0	-	Bars ditto	9 0 0	9 5 0	
Old	89 0 0	-	Hoops	10 5 0	10 10 0	
Australian, Wallaroo	90 0 0	91 10 0	Bars at works	8 5 0	9 5 0	
ditto other brands	88 0 0	89 0 0	Hoops ditto	9 5 0	11 0 0	
Chill bars, g.o.b.	82 0 0	83 0 0	Sheets, single & plates ..	11 15 0	12 0 0	
Wire	per lb.	0 1 11½	No. 1, in Wales	5 0 0	6 10 0	
Tubes	0 1 0 ½	-	Refined metal, ditto	7 0 0	8 0 0	
BRASS.	per lb.	-	Bars, common, ditto	7 5 0	7 10 0	
Sheets	9d.-10d.	-	Do., merchant, f.o.b.	7 15 0	8 0 0	
Wire	9½d.-10d.	-	in Tyne or Tees	7 15 0	8 0 0	
Tubes	9½d.-11½d.	-	Do., railway, in Wales	8 10 0	7 0 0	
Yellow metal sheathing ..	7½d.-8d.	-	Do., Swed. in London	15 0	15 10 0	
Sheets	7½d.-8d.	-	To arrive	15 0	0 0	
SPelter.	per ton.	-	Pig, No. 1, in Clyde	3 0 0	3 8 0	
foreign on the spot..	23 15 0	24 0 0	Do., f.o.b. Tyre or Tees	2 15 0	3 0 0	
" to arrive	23 15 0	-	No. 3, f.o.b. do.	2 13 0	2 15 0	
ZINC.	per ton.	-	Railway charis	4 0 0	4 10 0	
In sheets	30 0 0	31 0 0	Spikes	12 0 0	13 0 0	
TIN.	per ton.	-	Swedish boiler plates	25 0 0	35 0 0	
English blocks	£ 57 0 0	0 85 0 0	Sheets & strips	28 0 0	29 0 0	
Do., bars (in brls.)	85 0 0	89 0 0	-	-	-	
Do., refined	89 0 0	90 0 0	-	-	-	
Banca	83 0 0	84 0 0	-	-	-	
strands	82 0 0	83 0 0	-	-	-	
Australian	80 0 0	81 0 0	-	-	-	
TIN-PLATES.*	per box.	-	LEAD.	per ton.	-	
IC Charcoal, 1st qua.	£ 21 10 0	0 12 0	English Pig, com.	23 0 0	0	
10 Do., 1st quality ..	1 16 0	1 18 0	Ditto, L.B.	23 0 0	0	
10 Do., 2d quality ..	1 8 0	1 9 0	Ditto, W.B.	23 0 0	23 10 0	
10 Do., 3d quality ..	1 14 0	1 15 0	Ditto, sheet	25 0 0	0	
10 Coke	1 3 0	1 6 0	Ditto, red lead	24 0 0	0	
10 Ditto	1 0 0	1 13 0	Ditto, white	30 0 0	32 0 0	
Canada plates, p.ton.	16 0 0	15 0 0	Ditto, patent shot	26 0 0	0	
Ditto, at works	14 10 0	15 0 0	Spanish	22 5 0	0	
QUICKSILVER (p. bot.)	9 5 0	-	-	-	-	

* At the works, £s. to £s. 6d. per ton less.

† Add 6s. for each.

Tin-plates 2s. per box below tin-plates of similar brand.

REMARKS.—Fluctuations of a very abnormal character, resulting in panic prices, sudden drops, and as sudden reactions, have been occurring in the neighbourhood of the Stock Exchange of late—the course of the markets being ruled by the latest telegrams from Brod Kroatisch Daoenjin—but the metal market maintains the even tenor of its way, notwithstanding the insurrection in Bosnia, or other disturbing causes now in operation. This is mainly to be attributed to the inherent soundness of metals, and the great care which has been exercised in reducing the supply in proportion to the limited demand. There has been no encouragement to speculators, and this element of danger has been to a great extent absent from view. Had supplies come pouring in, irrespective of the restricted demand which those who have been watching the course of metals were pretty certain would characterize the markets during the greater part of the present year, doubtless operators for the fall would have taken advantage of the injudicious course adopted, and have reaped a corresponding harvest, but the course pursued has been exactly the contrary, and no opportunity of the kind has been happily afforded. There has been but little opportunity afforded, on the other hand, for speculating for the rise. Production has been limited, but demand has not materially improved, so that all that has been accomplished has been to maintain the balance, and when, as in the course of time must be the case, a return to the legitimate development of trade, and it is to be hoped and believed that they who have exercised due prescience in times of difficulty and great discouragement will in the days of prosperity reap the full benefit of their foresight.

The weather during the past week has been very generally all that could have been desired, and a large breadth of acreage has been successfully cleared, and the harvest safely housed. Great efforts are being made in this direction, and present appearances seem to augur a continuance to the end of harvest of just such dry, warm, genial weather as shall enable the farmers to secure their crops for the most part in fair condition. All things considered, there is reason for contentment with the amount of business transacted during the week, as well as with the general character of the same, and should nothing untoward occur to check the advance now making, the probabilities are in favour of a fair trade during the remainder of the year.

COPPER.—The market has continued firm, and increased activity is observable in some departments. A large business has been transacted in furnace material. Upwards of 2600 tons of ore, being four cargoes, have been sold for arrival, at 16s. 6d. per unit; and a cargo of ore and regulus has been disposed of, as for the ore at 16s. 3d., and for the regulus at 18s. 9d. There are rather buyers of Chili bars than sellers, but the latter are scarce at current rates, and buyers are hardly disposed to offer an advance which shall prove a sufficient inducement to holders to part with their holdings. Australian copper is in somewhat improved demand, and English smelters are chary of booking orders for early delivery, and can only be induced to do business for forward delivery to a limited extent and at full rates. From the foregoing remarks a clue may be obtained as to the actual position of the market, and an opinion arrived at as to the future prospects. There has been no material alteration in prices, but quotations are firmly adhered to all round.

Chili bars are obtainable for g.o.b. at about 82½, 83½, to 83, usual cash terms. At the last Swansea Ticketing a parcel of 1200 tons ore realised an average price of 16s. 5½d., and Cape produce 16s. 8½d., per unit. A cargo of 600 tons ore are also sold for 16s. 6d. Banca copper has found buyers at 88½, 10s., to 89½; English tough is quoted 89½ to 90½; best select, 90½ to 91½. India 4 by 4 sheets are obtainable at 92½ to 93½; and strong sheets, 95.

IRON.—The indications of improvement in the iron trade which have been gradually dawning during the last two or three weeks still continue. From the North of England the report is to the effect that, owing to local holidays, local work has to some measure been suspended during the week. The mills and forges have been almost standing idle, and the consequent demand for pig-iron for local uses has been materially reduced. But this has not affected the trade generally. The enquiry for foundry iron has been especially good, both on account of shipment abroad and for consumption at home; and, as the stock of this description is small, quotations for foundry iron have been out of proportion high, and very firmly adhered to. Forge iron is not in so much request, and stocks are probably rather on the increase just at present. The encouraging feature, however, of this and other iron-producing centres is that the demand for pig iron is now steady, and the deliveries from the North of England for Scotch requirements have been more than maintained. Quotations for pig show a slight advance.—No. 1, 56s.; No. 3, 50s. The enquiry for finished iron is slightly better. The rail market is still exceptionally quiet, but negotiations are in progress at this time which, it is hoped, will culminate in orders being given out which shall afford some increased support to the market. There is a fair amount of work on hand in the finished iron department. The plate-mills are kept going for the present, but makers would be relieved from a measure of anxiety respecting the future did they perceive their order-books somewhat better filled than at present the case. Quotations for rails are a shade lower, and there is little doubt that for a good quantity, ordinary section, 7½, would be accepted. For light rails 5s. to 7s. 6d. per ton in advance of the quotation would be asked.

From South Wales the report is still more confirmatory of an improved state of things. Notwithstanding the heat of the weather, which necessarily retards to a serious extent furnace operations, the amount of work actually executed during the past week is greater than in any district for a very long time past. In reviewing the position of this district it has for so long a time been the fate of the chronicler to point to future expectations as the only quarter from which a gleam of sunshine might with any probability be looked for, or, perhaps, enquiry for some specific might exhibit a faint shade of improvement, or, at the best, that contracts in rather larger numbers and for rather larger quantities had been passed, but to report that work done has been greater than for any given week for several months past, and during perhaps one of the hottest weeks of the season, is a fact not to be lost sight of. It must not be omitted to report that the demand is especially good for foundry iron, and that the foundries are in full employment. Quotations do not at present show any alteration, but are firmly held, and the tendency of the market is towards the maintenance of current prices. The hardware Birmingham trade does not as yet participate in the improvement which marks other branches of the iron trade, but, though this be not so, yet manufacturers of Birmingham goods have hitherto been able to supply a fair amount of work for the employees. The great falling off in the demand from America, which at one time was a most important outlet for the specialties of Birmingham, has seriously affected this local trade. In South Staffordshire there is a slight improvement, but as other districts are treading closely upon the heels of South Staffordshire, and advancing the standard of their iron so as to compete successfully with the best qualities, the margin for profit is very small, and makers find it necessary to exercise the strictest vigilance over expenditure, lest the small profit which may still accrue be converted into an actual loss.

The Scotch market has been steady, and prices have shown a tendency to advance. In such a market as that at Glasgow, in which the speculative element is more frequently found to be present and actively engaged in than in any other, as a rule, it is to be expected that unlooked for alterations should take place; but in the face of the universal determination rather to blow out furnaces and reduce the make of pigs than to allow the price to drop, it is not likely that materially lower quotations will become current; and merchants and dealers becoming alive to this are placing their orders somewhat more freely, and the probability is that they are wise in doing so.

SHIPMENTS.

Week ending Aug. 21, 1875	Tons 11,656
Week ending Aug. 22, 1875	7,618

Increase

4,038

Tons 88,223

LEAD.—The market continues to maintain the firmness which has characterised it for a considerable period. Good soft English pig is not obtainable under 23½, and for soft Spanish without silver 22½, 10s. has been paid.

SPelter.—Very little doing. Hard has changed hands at 18s. 10s.,

at which price buyers remain. At auction 113 ingots of Australian sold at 17s.

ZINC.—A good steady business at our quotations.

QUICKSILVER.—The quotation for Spanish quicksilver has fallen to 9½, per bottle, and contracts have been closed at this price.

TIN.—Throughout the week Straits have continued in improving demand, and the business transacted is on a larger scale than during the previous fortnight, and at advanced quotations. An advance of from 2½ to 3½ per ton has been established, and there is less disposition on the part of sellers to conclude contracts for forward delivery. Yesterday a slight reaction set in, and to-day assumes a more decided form; 5 tons of Straits sold early at 83½, and Australian at 81½, cash; 10 tons of the latter have since changed hands at 80½, and the former is now obtainable at 82½, cash and 81½, 10s. to 83½, per ton. The former is now offered for October delivery, but 81½ is required. We quote 87½ to 88½, blocks, 88½ to 89½, barrels, and 89½ to 90½, refined.

TIN-PLATES.—There is a slight improvement in the demand, and some makers are now tolerably well supplied with orders, while others are filling up gradually at prices firmer than for some time past.

THE IRON TRADE (Griffiths's Weekly Report).—Friday Evening.

We have to report an advance of about 1s. 6d. per ton in the value of Scotch pig iron on the Glasgow Exchange this week. The closing price this day week was 63s. sellers. The market closes this afternoon at 64s. 6d. cash, exhibiting the gain above referred to. We quote makers' No. 1 iron as follows:—Gartsherrie, 70s.; Coltness, 73s.; Calder, 70s.; Langloan, 72s.; Summerlee, 67s.; Monkland, 68s.; f.o.b. Glasgow; Glengarnock, 68s.; Eglinton, 68s.; f.o.b. Androssan; Shotts, 71s.; Leith; Kennel, 68s. 6d.; f.o.b. Boness. The Lowmoor and Bowling Companies, with other eminent Yorkshire ironmasters, have issued a circular this week declaring a reduction of 2½ per ton on their famous boiler plates, and 1s. per ton on bars. The Old Kirkstall Forge Company anticipated the reduction in prices some time since. On this account the Kirkstall Forge makes no change in the price either of bars, tyres, or other specialities. The improved and improving prospects of the harvest at home and abroad are encouraging. The increased supplies and low price of loaning money in the market on all securities of the highest class are circumstances which augur well for the future prospects of the iron trade. The state of the stocks of iron, both at home and abroad, never were so low for twenty years past. Although the iron trade proper cannot be reported otherwise than in a depressed state, the engineering establishments in all parts of England are flourishing, and most of the machine shops are actively engaged.

It is however, a fact worth of consideration that the Belgian ironmasters have successfully invaded the English markets for certain kinds of manufactured iron. The official returns of the Belgian Government register a larger amount of iron shipped to Belgium from England during the last three months than to any other country except Holland. This is a startling fact, but it is to some extent attenuated in its consequences by the circumstance that the kind of iron imported competes only with the third-class iron made in this country, and the iron used for building purposes in London and elsewhere, where the obstinacy of various railway boards refuses to give the English makers reasonable freights. This hindrance to the development of the English iron trade at home is felt, perhaps, to the greatest extent in the metropolis, where the Belgian ironmasters are doing a large trade, and the cost of freights of best English iron from Staffordshire and Yorkshire is out of all proportion to the mileage which separates these districts from London. The difference in the wages paid to puddlers and ironworkers in England and Belgium is notably in favour of the latter country, and this circumstance, with the excessive freights charged on English iron by the carriers here, must be looked upon as the double cause of our loss of a very large slice of the home trade. The iron trade generally looks a little more encouraging this week. We have had a steady demand on the London market for all best kinds of iron. Sheet iron continues in the ascendant, to such an extent as to keep the Staffordshire mills in full operation. On the other hand, boiler plates are in very slow demand; and as this class of iron absorbs great weight of metal, the want of animation in this department diminishes the total output, particularly in Staffordshire, to a very considerable extent. The great depression which we have witnessed in the raw material is ameliorated. The Gla-gow and Middlesborough exchanges are both firmer, and prices are slightly improving in face of better shipments, reduced and still reducing stocks on the banks of the Tees and the Clyde. The smelters on the west coast have recently felt the want of demand for Bessemer iron as much as less favoured districts, and resuscitation here does not appear to make the same progress as in the centres above mentioned.

The general blowing out of furnaces in Staffordshire has already produced a favourable effect in the Birmingham market in pig iron. The meeting yesterday on the Birmingham Exchange was decidedly more cheerful: pig-iron of all kinds was firmer, with an increased business. Middleborough brands were held more firmly. The same may be said of hematite from the West Coast, and all kinds of best native mine pigs. A good business was done in the two best Northampton brands, Butlin's "Wellinborough" and Mr. McClure's "Stowe" pigs; these two brands sold freely. Sparrow's "Friddi pigs" were likewise in demand on the Birmingham Exchange, and several parcels were bought for Staffordshire at full rates, and as Messrs. Firmstone, Addenbrooke, the Earl of Dudley, Messrs. Jones, Fowler and Co., Holcroft's, Turley's, Matthews, and all other best makers have either blown out furnaces or are preparing to damp down, the make is so considerably reduced that prices are stiffened in Staffordshire all round, and we believe the downward tendency in value of the raw material witnessed in Staffordshire is at length effectively arrested. The indications on the Birmingham Exchange yesterday were decidedly favourable to this view of the question. There appears to be some misunderstanding in Staffordshire with the ironworkers and the masters, which will no doubt be satisfactorily arranged before our next report, as it will be alike injurious to men and masters to allow any minor considerations to interfere with the good feeling which has characterised the Staffordshire trade as a whole, in this respect, during the present year. The tin-plate trade continues quiet, the makers of the very best brands are not overtaxed with orders; coke plates are more eagerly pressed on the home consumers at slightly lower rates. The demand for galvanising sheet-iron continues steady with undiminished volume; and, looking at the galvanising trade in all branches of its manufacture, we have one of the most encouraging features in the metallurgical industries of the country. The price of spelter continues high, 25½, with a steady market.

Messrs. French and Smith—COPPER: A large business in regulus has been transacted at 17s., per unit, and the market is firmer all round. Chili bars are quoted 83½, at which there is a good demand. Wallaroo is held out of the market, and quotations are, therefore, nominal.—TIN has been active at advancing prices. Straits and Australian have changed hands freely up to 83½ for the former, and 81½ for the latter; but the market closed weak at 17s. under these rates. English is firm at the advance.—LEAD steady. English in good demand. Spanish for forward delivery is more offering.

Messrs. Rogers, Sons, and Co.—IRON: Scotch pig is 2s. dearer, and in the North of England foundry iron seems to be very scarce, and has since advanced 2s. 6d.

and Bolivia, 1 to 1½; Richmond, 11½ to 12½; Sweetland Creek, 2½ to 3½.

The Market for Mine Shares on the Stock Exchange during the week has been active, a considerable amount of business having taken place at advancing quotations. The leading descriptions in each department have been purchased for investment purposes, and a good and improving market has been established.

American mines have been well sustained, although a temporary check was given to purchases by exaggerated rumours (referred to below) of losses in connection with the stoppage of the Bank of California.

Richmond Consolidated, 12 to 12½. Cablegram received: "Week's run from furnaces, \$48,000; week's run from refinery, \$40,000 in Dore bars. Drift at 600 ft. level holed—preparing to sink." The bullion produced this season is \$709,000. The make since the end of February is \$930,000. The refinery this season has produced gold and silver bars to the value of \$458,000, irrespective of refined lead.

The completion of the drift from the 600 ft. level, in the Richmond hoisting shaft to the main lode is important, as it gives the requisite ventilation, and allows the sinking of the winzes on the lode to be resumed. The Richmond hoisting shaft was nearly down to the depth of 700 ft., at which level another drift will be driven to meet the winze sinking in the lode. The rock through which the 600 ft. level drift ran was so unusually hard that the work has occupied a much longer time than was anticipated; but, as the hoisting shaft is going down now in softer material, it may be hoped that the next drift will be in equally as good ground. It is the necessity of keeping the hoisting shaft sinking in advance of the winze in ore, in order to obtain ventilation, that retards the development of the main lode. We are informed that the continuation of the Lizette tunnel has been stopped for the present, in order to ascertain more accurately the probable course of the new discovery before running the tunnel to meet the ore body which, like the first lode laid open, appears to be changeable in its angle of inclination, and erratic in plan. In a former instance a drift run to intersect the main lode, according to its then sharp angle of descent, got 60 ft. under the ore, which was owing to its sudden change to a horizontal course; it is, therefore, obviously the most prudent plan to work on in the new ore body itself for some distance, and thus give better information as to its probable dip and bearing, so that it may be intersected higher up the mine with greater certainty. It is a peculiarity of the limestone formation of the district to exhibit jagged and irregular retaining walls, expanding on one side, and pinching in on the other. Thus the stoping area on the 500 ft. level has been considerably lessened by the jutting out of the retaining wall at that point, while on the other hand the old flat chamber below the Lizette tunnel, which was thought to be nearly worked out, is still yielding unexpected quantities of good ore, and is reported as "the most wonderful chamber ever discovered on Ruby Hill." At 50 ft. depth in the winze below adit level a drift has been started, and 35 feet progress made through the new ore body. The stoppage of the Bank of California is announced by cable as having occurred on Aug. 26. The President reports that they have plenty of assets, but are short of cash. The Californian Bank has a branch at Eureka, and the Richmond Company receive their monthly cash through the local branch, but as the pay-day is not till September 5, it is not probable that funds to any amount would be in the Bank at present. We understand that the bullion agent of the Richmond Company does not bank with the Californian Institution.

The Eureka *Sentinel* of July 31 has the following paragraph in reference to a heavy fall of rock in the Eureka Consolidated Mine, by which five men lost their lives:—

We understand that the unfortunate case of yesterday in the Eureka Consolidated will not seriously damage the mine. It will, of course, retard operations for a few days; but the foreman says the injury to the property is not of a permanent character, and cannot result in material loss to the company. On the contrary, it has disclosed greater quantities of ore than were ever before in sight.

Eberhardt and Aurora, 8 to 8½; the directors announce that the stoppage of the Bank of California cannot in any way affect this company, as it has no business transactions with that bank.

Flagstaff, 1 to 1½; referring to the recent report of Mr. Woodfield, the late underground agent (whose letter appears in another column) states that Mr. Woodfield has been misinformed as to the quantity of ore left in the mine; for when the writer left there were at least 4000 tons in the stopes above the tunnel, left by the direction of Mr. Maxwell and Captain Forbes specially to supply Mr. Davis when wanted. When the writer arrived at the mine about 3000 tons were in reserve, and on leaving he calculated there were 8000 tons above and below the bunch. A great deal has been said about hoisting works, but (adds the writer) had Maxwell's bunch been proceeded with the mine would have been worked cheaply from a permanent base for many years to come, giving handsome profits.

Foreign Gold Quartz Mines have again been active, at further advanced quotations. St. John del Rey stock has changed hands at 405 and 407½, and close 400 to 405; the profit for July amounts to 13,300%, as against 11,782% for June. The produce during July had been already announced at 52,500 oits., of the value of 20,344\$, which is the largest monthly return since the re-opening of the mine, and may be accepted as an early confirmation of the hope expressed by the executive in the recent advices that they would shortly be able to note a considerable improvement in richness as well as in quantity. The yield for the first division of August (nine days) is 15,500 oitavas (value 6000\$), produce 10½ per ton, all going on well. Don Pedro, ½ to ¾; telegraphic advices announce that the loss for July amounted to 750\$. The produce cleaned up for the first division of August was 1300 oitavas; prospects unsettled, energetic measures adopted to control the water, which interferes with the sinking. Port Phillip easier, at ½ to ¾; Chontales, ½ to ¾; Javali, ½ to ¾; Almada and Tiritó, ½ to ¾; Sierra Buttes, ½ to ¾; ditto Pluma Eureka, ½ to ¾; London and California, ½ to ¾; Independence, ½ to ¾; Frontino and Bolivia, ½ to ¾. The failure of the Bank of California has occasioned some degree of alarm in the market, as several of the Anglo-American mining companies are believed to have accounts with the bank; but the amount jeopardised cannot be large, as it is not customary for any of the companies to keep considerable amounts of cash lying idle where money is worth, as at San Francisco, 10 to 15 per cent.

The market for Hydraulic Mine Shares on the Stock Exchange has been quite during the week. Sweetland Creek shares remain firm, at quotation; the news from the mine is good. Birdseye Creek show no change since last week; the washing will be continued till the end of this month. Blue Tent are steady; the ditch is being rapidly completed. Cedar Creek are offered, but the transactions are few. Blue Tent, 4½ to 5½; the ditch is rapidly drawing near to finish. Already nearly nine miles has been completed, and from the progress made, Professor Price reports that it will be practically done by the end of this month. Birdseye Creek, 1½ to 1¾; the superintendent, Mr. G. S. Powers writes that he will be able to continue washing until September 1, and that the prospects are more favourable. Cedar Creek, ½ to ¾; the superintendent states that he will be able to wash until the 15th of this month. The Yankee Tunnel was driven 80 ft. in July, and at the date of last advice, August 3, the Yankee claim was the only one running in the district. Sweetland Creek, 2½ to 3; the advices to hand from Mr. G. D. McLean continue to be very satisfactory. He is well underway with another run, and has nothing at all to interfere with any future operations, which will be as successful as heretofore, unless the supply of water should diminish. The first general meeting of the Oregon Company will be held on Tuesday, and in another column we publish a report from one of the directors of the company who went out for the purpose of thoroughly investigating all matters connected with the property, and who fully confirms all that has been said as to its value. New Zealand Kapanga, ½ to 1½; the report from the agent appears in another column. The shaft is now down 50 fms., and preparations are being made to cross-cut towards the lode at that depth. From the report of the agent, which is confirmed by the testimony of an independent inspector, there is no doubt but that good profits will accrue directly the lode is reached, which it is anticipated will be about the end of October.

Lead Mines have been represented by Van, Pateley Bridge, West Chiverton, Tankerville, Roman Gravels, and a few others. Van, 24

to 25; the month's sale on Aug. 27 was 500 tons of lead and 150 tons of blonde. Pateley Bridge, 6½ to 7½; the mine continues to open out most satisfactorily. The "new discovery" is now worth 30¢ per fathom. Van Consols, 1½ to 2½; the cross-cut through the lode at the 40 fm. level, under the 85 ft. surface, is in 14 feet. The lode at this depth is much harder and more compact; that in the levels above the ore-bearing part of the lode is not yet reached. The new drawing-shaft will be completed in about two months.

West Chiverton, 16 to 16½; the report from the agents this week must be considered very satisfactory. A further sale of 2000£. worth of minerals has just been effected, and it will be observed by the report that half the amount is for blonde. This sale will make 20,000£. realised for lead and blonde under the present management, which dates from Nov. 10 last only, something under ten months. South Cwmystwith, 1 premium; the investing public are showing their appreciation of the merits of this property by purchasing the shares freely at 1 prem. The capital of the company being small, moderate sales of ore will suffice to yield very good profits.

Pennerley, 1½ to 1¾; the report from this mine continues satisfactory. At Potter's Pit, the cross-cut at the 75 is expected to intersect the lode in about a fortnight. In the 65 fm. level the winze sinking to communicate with the cross-cut below is making better progress, and yields stones of lead. The lode in the winze below has much improved; worth 4 tons per fathom, and looking well for depth and other points; are turning out fair quantities of ore, and the stopes yielding much as usual.

Bog, 9s. to 10s.; the agent's report appears in another column, by which it will be seen that the mine has improved since last month. The new drawing-engine is working remarkably well; good progress is being made in clearing the bottom levels, which when done will, after clearing the upper levels, enable them to open out fresh tribute ground.

Penstruthal, 9s. to 11s.; an excellent report appears in another column, from which it appears that in a month from this date increased returns of tin will be made. Cathedral, 25s. to 30s.; an excellent copper mine is being opened up. The lode in the engine-shaft is expected to reach a course of ore that is being opened on in the 30 and the winze under the same. Great West Van: all work progressing with regularity; 10 tons of lead was sold this week.

Subjoined are the closing quotations:—

Ashton, 1½ to 1¾; Bog, 8s. to 10s.; Carn Brea, 37s. to 39s.; Devon Great Consols, 2½ to 3½; Dalcoath, 48s. to 50s.; East Caradon, 1 to 1½; East Lovell, 7 to 8; East Van, 1 to 1½; Great Laxey, 1 to 1½; Hindston Down, ¾ to 1½; Markeet, 2½ to 3½; Minions, ¾ to 1½; Pateley Bridge, 6½ to 7½; Pennerley, 1½ to 1¾; Penstruthal, 8s. to 10s.; Roman Gravels, 11½ to 12½; Tankerville, 11½ to 13½; Tincroft, 2½ to 3½; Van, 24 to 25; Van Consols, 1½ to 2½; West Bassett, 6 to 6½; West Chiverton, 16 to 16½; West Tankerville, 1 to 1½; Wheal Grenville, 2½ to 3½; Almada and Tiritó, ½ to ¾; Birdseye Creek, 1½ to 1¾; Blue Tent, 4½ to 5½; Cape Copper, 34 to 35; Cedar Creek, ½ to ¾; Chontales, ½ to ¾; Colorado Terrible, 2½ to 3½; Don Pedro, ¾ to ¾; Eberhardt and Aurora, 7½ to 8½; Flagstaff, 1½ to 1¾; Frontino and Bolivia, 1 to 1½; Gold Shores, ¾ to ¾; Independence, ½ to ¾; Javali, ½ to ¾; List Chance, 1 to 1½; New Querida, ¾ to ¾; Richmond Consolidated, 12 to 12½; San Pedro, 1½ to 1¾; South Aurora, 8s. to 10s.; St. John del Rey, 39s. to 40s.; Sweetland Creek, 2½ to 3; Tecoma, ¾ to 1½; United Mexican, 2½ to 3½.

QUICKSILVER.—The price of quicksilver last week should have been quoted at 9s. 5d. per bottle.

SHEFFIELD.—Mr. J. R. Heard, stock and share broker, in his weekly report says:—A dull tone has prevailed in our market during the past week, a fall of 2 per cent. taking place in Bilbao, 3 per cent. in Bolekow, and 3 per cent. in Parkgate, Cannock and Co. shares advanced 25s. in value. The following are current rates:—Bilbao Iron Ore Company, 41 to 45; Bolekow, Vaughan, and Co., 11 to 12 prem.; Brown, Bayley, and Dixon, 28½ to 27½ dis., 28; Charles Cannell and Co., 10 to 9 dis.; Charlton Iron Company, 11 to 13; Chillington Iron Company, 4½ to 5; Ebbw Vale Steel and Iron Company, 13 to 12½ dis.; G. and J. Brown and Co., 80 to 78 dis.; Hopkins, Gilks, and Co., 6 to 5½ dis.; John Brown and Co., 7½ to 8½ prem.; Parkgate Iron Company, 14½ to 15½ prem.; Sheepbridge Coal and Iron Company, 23½ to 24 prem.; Staveley Coal and Iron Company, 62 to 62½ prem., 62; William Cooke and Co., 14 to 15 dis.; Sheffield Waterworks Company, 97 to 98; Sheffield Gas Company, 206 to 208.

The DINAS SLATE AND SLAB COMPANY, with a capital of 50,000£., of 5s. each, has been formed to purchase, upon terms to be ascertained of the company's solicitor, a valuable property, 45 acres in extent, situate about 3½ miles from Newport, Pembrokeshire. It is on the sea coast, a small harbour running into the works, so that slates and slabs can be conveniently shipped. There are six veins of slate rock, running east and west throughout the property, the two largest veins measuring 45 yards and 30 yards respectively in width, and 40 yards in depth to low-water mark, and running to the extreme boundary of the property. There is ample water-power for the sawing and planing machinery, and it is estimated that raising 500 tons per month, the profit will be 1150£. 6s. per month. Reporting upon the property, Mr. William Henderson, of Gloucester and Longhore, states that the veins run due east and west, and lie at an angle of 75°, dipping northwards. The slate is of dark-blue colour and fair average quality; the presence of mica in the cleavage gives it a pleasant appearance, and greatly facilitates the process of splitting. Taking the various thicknesses of the veins of the slate, and allowing 50 per cent. for waste in working—an unusually liberal allowance—there would remain available for the market the aggregate amount of 7,453,600 tons, and assuming the average sales amounted to 1000 tons a month, it would occupy 60 years to exhaust the property. Mr. H. W. Hughes, of Panteg, reports that the rock is excellent in quality—clear, and of good colour—in fact, the quality cannot be surpassed by any in the locality. He considers that the works will realise some thousands of pounds profit annually after deducting all expenses. Mr. Henry Williams, of Dinas Cross, states that there is slate rock enough for the company to employ hundreds of men profitably, and as they keep on developing the property the works will soon produce an income of 15,000£. a year after paying all expenses, and they can annually increase the workings. The prospectus will be found in another column.

The NORTHERN BOHEMIAN COLLIERIES COMPANY (Limited), with a capital of 100,000£., of which 60,000£. is in 10 per cent. preference shares of 100£. each, and 40,000£. in ordinary shares of 10£. each, has been formed to purchase for 84,000£., of which 19,000£. is represented by taking over a mortgage bearing 7½ per cent. per annum interest, the freehold mineral rights of 1700 acres of coal lands in the celebrated Komotau basin, and near the Komotau junction. There are three seams of a collective thickness of from 40 to 60 ft., which are easy to win and work, on account of the small depth below surface, the excellent quality of the roof, and the freedom from water and all dangerous and noxious gases. The property has been visited by Professor Forbes, and his report verifies that of the mining engineer who had previously inspected it. Almost every geological work of importance contains references to this valuable coal field, and world-renowned authorities, such as M. Chevalier, Baron Humboldt, and Prof. Haidinger (late President of the Geological Society of Vienna), as well as the last reports of the Imperial Commission of the Vienna Exhibition, have attested their enormous value and capabilities. The report of Mr. Emil Kleinsteuber, Austrian mining engineer, is an exhaustive and interesting one; he estimates that Pancratz and Raparatus Mines will, with extensions involving 9000£. outlay, yield 20 per cent. profit on the entire property by 11 shafts and numerous bore-holes, and there is estimated to be 62,000,000 tons of workable coal, equal to an output of 350,000 tons per annum for 200 years. When the three additional shafts are in working order an output of 350,000 tons per annum may be confidently expected. At the present moment the profit on the coal is 2s. 4d. per ton for local orders, and 2s. per ton for large orders for export, out of which, however, the royalty and Government impost have to be paid. Taking the net profit at 1s. 6d. per ton on the output of 350,000 tons, the income will be 23,250£., equal to a dividend of about 26 per cent. per annum on the entire capital. The offices of the company are at 183, Gresham House, E.C.

NEW CHIVERTON.—The 35 north is worth 5½ per fathom; 35 south, 8½; 25 south, 5½, and likely to improve considerably. The five pitches are worth 12½, 10½, 9½, 8½, and 7½ per fathom. The shaft is going down below the 35, in a productive lode. The present returns are about 22 tons of lead ore per month, and the mine is likely to become shortly a first-rate paying one.

WEST CHIVERTON.—The report from the agent this week must be considered very satisfactory. A further sale of 2000£. worth of minerals has just been effected, and it will be observed by the report that half the amount is for blonde. This sale will make 20,000£. realised for lead and blonde under the present management, which dates from Nov. 10 last only—something under ten months.

HOLMBUSH MINE.—We understand that the committee of Dr. Emmens's estate have agreed to transfer this valuable property to a joint-stock company, which will shortly be formed. Large quantities of arsenical muriatic acid are now being raised from the 20 fm. level, and so soon as the mine shall be forked to the 60 it is intended to increase the production to at least 100 tons per day, an output which the existing reserves now standing in the several levels will allow to be maintained for some years without any further development. The muriatic acid thus raised is being burnt for arsenic—now at

so remunerative a price—and the residue is being treated by the Nascent Copper Process, and monthly consignments of argenticiferous copper precipitate are being made to the Welsh smelters. The Callington district is quite jubilant over the prospects of Holmbush, for which a brilliant future is predicted on all sides.

LYNNVI, TONDU, AND OGMORE COAL AND IRON COMPANY.—The third annual meeting of shareholders in this company was held yesterday. The proceedings lasted for nearly four hours, and towards the close the discussion assumed a personal, and hence an unpleasant, tone. Mr. A. Brogden, M.P., the Chairman, in his opening remarks, explained at great length the causes that have adversely affected the company in the past year, and which have produced a deficit on the working of the concern. Having moved the adoption of the report and accounts, and Mr. G. Macnair having seconded the resolution, a prolonged discussion ensued, in the course of which Mr. J. White, of Southport, expressed, on behalf of himself and 34 other shareholders, the dissatisfaction they felt with the report of the directors, and their desire for a change in the management. Certain resolutions embodying these views, which it was intended to propose, were ruled by the Chairman (under the solicitor's advice) out of order, and eventually the report and accounts were unanimously adopted. Upon the question of the election of directors being next brought forward further discussion ensued, the Lancaster section being desirous of placing two of their representatives on the board. The difficulty was at length arranged by Mr. C. B. Vignoles (one of the retiring directors) gracefully withdrawing his candidature in favour of Mr. Hurst, a Manchester shareholder. Messrs. H. Brogden and G. Macnair were re-elected to seats at the board. The re-appointment of Messrs. Chadwick as auditors of the company was next proposed, and an amendment to the effect that Messrs. Quilter, Ball, and Co. be elected in their place having been negatived, the original motion was carried. Thanks to the Chairman closed the proceedings.

* * * With this week's Journal a SUPPLEMENTAL SHEET is given which contains—Original Correspondence : Iron Industries of Monmouthshire (R. Meade); Coal-Cutting Machinery (I. G. Bass, J. Oxnard); Blow-pipe Scale for Measuring the Weight of Globules of Silver or Gold; Mining on Lake Superior; Mining in New South Wales (R. Adams); St. John del Rey Gold Mining Company; Eberhardt and Aurora Silver Mining Company; Last Chance Silver Mining Company; Flagstaff Mine (J. Godsworthy); Nascent Copper Process (R. H. Emmens); Patent Cotton Gunpowder Company (R. H. W. Dunlop); Divining Rod (R. Symons); English Mine Agents, No. I.; Auditors' Fees; and the Grogwinion Company; Mine Audits; "A" and "B" Consols; Cardiganshire and Montgomeryshire Mining (A. Francis); Llandilo Silver-Lead and Blende Mine (J. J. Sparge); Marke Valley Mine—Mineral Resources of the South-West of Ireland; No. XII.—Foreign Mining and Metallurgy—The St. Gotthard Tunnel—Foreign Mines—Reports—New System of Oil Metallurgy (illustrated)—"The Mechanic's Guide"—Designing Valve Gear—Patent Matters—Meetings of the Ibstock Colliery, Belstone, and Oregon Hydraulic Companies.

O R E S , &c.

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D. ERNEST MELLIS, A.M., Ph.D.,
MINING ENGINEER AND GEOLOGIST,
52, BROADWAY, NEW YORK, UNITED STATES.

HENRY SEWELL, M.E.,

Will LEAVE for PERU and CHILE on or about the 17th October. All letters from that period to be addressed LIMA, PERU, SOUTH AMERICA.

LONDON ADDRESS,—10, UPPER WESTBOURNE TERRACE.

CALIFORNIA, NEVADA, UTAH, COLORADO, AND THE PACIFIC COAST OF MEXICO.

E. N. RIOTTE, M.E.,

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NOTICES TO CORRESPONDENTS.

COMPRESSED FUEL.—"H. J."—The most important matter to be attended to is the thorough cleansing of the slack before agglomerating it. There have been innumerable washing apparatus proposed, but the cheapest and most economic in working is said to be that upon the principle of the old fashioned jigger. The machine designed by Mr. Edwards is not at present in the market.

MECHANICS' FRIEND—“A. B. C.” (Isle of Man).—The price of Mr. Axon's book is 4s. 6d., and can be obtained through Messrs. Trübner, of Ludgate Hill.

COURT GRANGE SILVER LEAD MINING COMPANY, AND UTAH MINING COMPANY.—If any of your correspondents can furnish some information as to what is being done at the mines of the above companies I shall esteem it a favour if they will kindly do so, as the usual report from the former has long been absent from the Journal; and with reference to the latter company, we were to have another meeting of shareholders, and further information as to the state of the mine, &c., long before this? Some companies are kept going solely to benefit the officials, so long as there is any money, and then into liquidation they go. I trust the above are not going to be added to the long list of this class that your columns bear witness to. Shareholders are treated as if they had no interest whatever in certain companies the writer could name.—A SHAREHOLDER.

MINERALOGY.—We understand that Mr. Readwin has carefully revised his "Index to Mineralogy" (1867), to which, it is said, he has appended copious notes, and a Dictionary of about 10,000 British and foreign synonymous terms. We believe it is ready for publication; and, judging from the recent mineralogical correspondence in our columns, not before it is wanted, both at home and abroad.

BRITISH ASSOCIATION.— We have a long report of the Proceedings in type, but are compelled to postpone its publication.

Received.—"A Miner" (Portage Lake)—"Delta" (Carr Brea and Tincroft Mines) — "F. B." (Gold Company)—"G. H."—"H. S."—"J. R."—"W. E."—"W. J. M."—"H. H. G."—"Shareholder" (West Jewell): We could not publish such a letter; it is personally often-ive, and not calculated to elicit information, or even reply— "Engineer" (Neath): We shall be glad to have particulars of the invention— "Shareholder" (South Condufford) must append his name to the letter for publication—"Shareholder" (Flagstaff): Next week—"A City Man" (Auditing Mining Companies' Accounts): Next week—"An Anxious Shareholder" should apply at the office for the information he requires; the Secretary will readily furnish it.

THE MINING JOURNAL, Railway and Commercial Gazette.

Railway and Commercial Gazette.

LONDON, AUGUST 28, 1875.

BLASTING-POWDER IN MINES.

The collective report of the Government Inspector of Mines relating to the use of blasting-powder in fiery mines, printed to furnish a return moved for by Mr. ALEX. MACDONALD, has just been issued, and the general opinion appears to be that the prohibition of blasting in all mines is undesirable. The difference of opinion existing among the Inspectors may be traced to the different systems of working adopted in the several districts, such difference being necessary to suit the particular seam of coal to be worked. It is demonstrated that to prohibit the use of gunpowder in fiery mines and permit its use in others would be manifestly unjust to those unfortunate enough to own fiery mines, especially as experience has proved that with proper management explosions in very fiery mines can be and are prevented. It appears that in Lancashire shots are habitually fired between shifts. The prohibition would only save 150 lives at most, and it would cost 8000/- a life to save them, the loss, be it remembered, occurring in badly managed mines, and the cost falling almost entirely upon those which are conducted safely. Mr. DICKINSON points out that, although the present Mines Regulation Acts contain no actual prohibition of the use of powder in gaseous mines, there is the power of arbitration, which applies to anything not specifically comprised which in the opinion of the Inspector is dangerous or defective.

The reasons for the non-desirability of prohibition are stated in various ways by the different Inspectors. Mr. DICKINSON states that in some instances where the coal is too hard to admit of the use of powder being dispensed with the shots are now fired between shifts. They might be fired by electricity, but someone must be there to adjust the brattice—that is, the temporary partition by which air is conveyed to the face of the workings—and to put out any jets of gas which may have been lighted, or any remains of the wadding or cartridge; also to close doors which may be blown open by either a heavily charged or a blown-out shot. Mr. HALL believes that to entirely prohibit the use of gunpowder would be an injustice to those mine owners who manage thoroughly well, and where the ventilation is such that blasting can be done with comparative safety, also that such a course would lead to the introduction of a worse standard of ventilation, and the result would be more frequent accumulation of explosive gas, which would run a risk of being ignited at any moment either by faulty safety-lamps or workmen's carelessness. We should not, he remarks, lose sight of the fact that the real cause of explosions is the presence of inflammable gas, not of that which is held in the coal itself, but that which having filtered out has not been carried away by ventilation,

whether it has been carried away by ventilation, and whether it is ignited by blasting or otherwise is immaterial.

But the real safeguard against explosion is sufficient ventilation throughout the mine, and at all times. Mr. T. E. WALES reports that in his opinion in working fiery mines shot-firing should only be allowed in working a portion of the mine known as the "whole," and the ventilation should be good and properly arranged, and the workings should be at a proper and safe distance from the goaf or old works, which may contain gas. Properly qualified and careful persons should be appointed to fire all shots. The use of boxes or iron pipes of small area should be strictly prohibited; secondly, shot firing in working on the long wall system, or any system approaching it, where the goaf is near to the working faces should be strictly prohibited. Mr. RALPH MOORE explains that explosions are either (1) the result of carelessness or neglect of the general and special rules, or (2) they are the result of misplaced confidence in the ventilation and state of the mine on the part of the owners and managers. Mr. LIONEL BROUH cannot but continue to believe that blasting for the purpose of dislodging coal, should, under certain conditions, be put a stop to; for example, where fiery seams are wrought by the long wall process. By this system, the gob is very near to the faces of work, and is liable at times to be surcharged with carburetted hydrogen. However tight or solid these gobs or goaves may become by the gradually descending pressure of the superincumbent strata, gas still gets entangled in the porous mass within the pack walls; notwithstanding all our efforts to prevent it, it will still take place, and there is never any certainty as to how far the flame of a shot will reach (especially a blown-out one), or how close fire-damp may lie concealed. Then, again, as regards blasting, it is impossible to say what amount of gas may not be driven out of its lurking places by the powerfully concussive action of exploded gunpowder. He thinks that in all mines, whether explosive or not, gunpowder, or other explosive media, will still have to be employed in certain necessary operations, in sinking, for example; in all sorts of "stone drifts," whether across measures or through faults or dislocations. We cannot help ourselves in this respect. Then, again, in "narrow work," horse-roads, and so on, it would be expensive and difficult to get on without powder. He adds that of course he does not advocate its disuse in mines that are not infested with inflammable gas, but the difficulty will be to draw a line between those which may be considered fiery enough for "locked lamps," and those which may reasonably come within the limit of that class in which "naked flame light" can be safely trusted to. To resist the agency of explosives in this latter category would, he considers, be throwing away the gifts and advantages that science has conferred upon us.

The expediency of prohibiting the use of explosives is carefully discussed by Mr. WILLIS, who states that he thinks the prohibition would be found impracticable, especially in thin seams, where much stonework is of necessity to be performed. To establish such a law would be a violent (and, in his opinion, unnecessary) alteration of existing relationship between selling prices of minerals and the cost of production. The owner of a fiery mine would at once have an additional cost of production of from 1s. to 2s. 6d., and in many cases more, per ton, whereas the owner of the non-ferrous mine would still be able to produce at his present cost. The main question is,

however, would such a prohibition tend to lessen the number of lives lost by explosions in mines? He is bound to say that, on the whole, throughout the United Kingdom he believes it would have this tendency; but he thinks it is not difficult to show that in districts like that of Northumberland, and also in Durham, the great probability is that, for awhile at least, there would be an increased loss of life from explosions. Mr. W. ALEXANDER remarks that the important point for consideration is whether the use of gunpowder should be prohibited in fiery mines, or allowed under certain restrictions. The proposal to fire the shots between the shifts when the firemen only are in the mine is simply tampering with an objectionable and dangerous system. It would not be a popular measure to enact that the use of gunpowder should be prohibited in all mines worked with safety-lamps; but he is fully persuaded that such an enactment is required, and that it is the only effective way to deal with mines worked under such conditions. It is proper to observe, however, that a small percentage of the mines in this country are worked entirely with safety-lamps (it might be useful to know the exact number, there is only one at present in his district), and it would be mischievous as well as absurd to extend such a prohibition to all mines.

where gas was known to exist. The process was a very simple one — a piece of steel came in contact with some flint, and the sparks emitted was the colliers' light. As might be expected, this was courting an explosion most surely, and one took place at the Wall-end Colliery in 1765. Of the steel mills, upwards of 100 were in use in 1796 in the Hebburn Colliery. Three years after, however, HUMBOLDT introduced a lamp which burned in an atmosphere impregnated with gas, but it only burnt so long as the air within it was not consumed. As might be expected, the Humboldt lamp was not successful, but it was succeeded in 1813 by the well-known lamp of Dr. CLANNY, which is now to be found in mines in all parts of the kingdom, and is a favourite with the men, seeing that it gives a very fair light. But the lamps which up to the present time have been looked up to for safety are those of Sir H. DAVY and GEORGE STEPHENSON. Both were brought out in 1815, and it has been a matter of dispute as to whom priority is due. It has been generally conceded to Sir H. DAVY, but the Newcastle people, proud as they deserve to be of their great engineer, have insisted that STEPHENSON was the first in the field, and we find that on Jan. 1, 1817, the inhabitants presented him with a silver inkstand and 1000 guineas as the inventor.

Mr. BAKER states that any alteration in the law having for its object the prohibition of the use of gunpowder in fiery mines would, he believes, meet with great opposition, both in and out of Parliament. Mr. BELL is of opinion that powder cannot be dispensed with altogether in mining operations until we have some mechanical means of performing the work, and if it were attempted it would meet with a most determined opposition by the colliery owners and managers, and, probably, by a large section of the workmen; but, from his experience in other districts, he is of opinion the danger from its use might be very considerably lessened by making it compulsory that in fiery mines the coal should be properly undercut or holed, and properly side cut, and that the drilling of holes, charging, and firing of shots should not be performed by the colliers, but by a staff of properly trained and experienced men; and he has no doubt the under holing and cutting would reduce the charges of powder to one-third their present size, and, consequently, a proportionate amount of danger. With respect to wedging the coal, there is a wide difference of seams in different districts, and often in the same pits; while one seam is of an open friable nature, with even cleavages suitable for wedging, others are the reverse, being of a tough coarse nature, with very irregular cleavages, which would be almost impossible to work by wedging.

But, although the opinion of the majority of the Inspectors is against the prohibition of the use of explosives in collieries, the question cannot be considered as settled, for at least four out of the twelve declare that they "are of opinion that if no explosives were allowed in fiery mines, or where safety lamps are now used, there will be a great saving of life," and Mr. WYNNE states that so long as the indiscriminate use of explosives is allowed the inventors of machinery to supersede them can never hope to succeed, for no one will give a machine a fair trial until some restraint be put upon the use of dangerous explosives. If the Legislature think it proper to prohibit the use of explosives in fiery mines, he repeats that not only would the men be amply compensated by the safety from explosions and falls of roof, and by the absence of powder smoke from their working places, but the owners would be equally compensated by the increased quantity of large coals gotten. In the Journal of June 12 it was urged that "a fair trial of the system of prohibition of explosives from all collieries, whether fiery or otherwise (for if any pit be exempted it would be most unfair to those affected by the Act), should at least be given; and if this be done, even the Bunker's Hill Colliery explosion may hereafter be referred to as having been beneficial." In opposition to this, Mr. ALEXANDER said that "it would be mischievous, as well as absurd, to extend such a prohibition to all mines," but it is precisely the absence of absurdity in the *Mining Journal* remarks that justifies the conclusion at which the majority of the Inspectors arrived. To permit one colliery owner

majority of the Inspectors arrived. To permit one colliery owner to use powder and prohibit his neighbour from using it would be, according to the principles of political economy, as inadmissible as to permit one manufacturer to employ steam-power and limit his neighbour to the use of manual labour. But the question is whether actual facts justify the assertion in the *Mining Journal* that "the system of prohibiting the use of explosives in any colliery, whether fiery or otherwise, should be tried." Every facility will be given to Mr. ALEXANDER to prove the negative.

The mere fact of losing 150 lives per annum through the use of explosives is unimportant, since it only represents one life per annum for each 2000 men employed, whilst the loss amongst the working classes through the use of intoxicating drinks would be 49 in 2000 at the very lowest calculation, so that were this the sole justification for the proposed prohibition the conclusion would be that it is 40 times more necessary to prohibit the use of intoxicating drinks at surface than of explosives underground. But Mr. WYNNE and the Bunker's Hill explosion gave the question an entirely new bearing, and this none of the Inspectors seem to have discussed. Mr. WYNNE suggests that the use of explosives in collieries is not only directly dangerous but indirectly so, that the vibration caused by the blasting damages the whole mine, so that there is an increased escape of gas from the coal faces, resulting in explosions, and consequent loss of life not immediately connected with the firing of shots; so that the roof and sides of the shafts and drivages are made rotten and unstable, increasing the number of deaths from falls, and so that the proper ventilation of the mine is rendered much more difficult, the air currents being disturbed every time a shot is fired. Are these assertions true or false? Is the question for the discussion of the Inspectors, but this they do not seem to have considered. If they be true, the assertion in the *Mining Journal* that "the system of prohibiting the use of explosives in any colliery, whether fiery or otherwise, should be tried" (say two or three years) is justifiable; if they be false, Mr. ALEXANDER very properly brands the proposal as absurd. If true the trial would be worth making for the mere saving of life, since the accidents would be reduced to one-fifth the present number, and if Mr. WYNNE be correct (and the assertion of Mr. FIRTH that at the Woolley Colliery a much larger proportion of round coal has been got during the two years that his pick machine has been used, and the use of explosives abandoned, than previously seems to confirm him) in saying that "the owners would be equally compensated by the increased quantity of large coal gotten," the proposed experimental prohibition would certainly not be disastrous to the colliery interests.

MINERS' SAFETY-LAMPS AND LIGHTS.

MINERS SAFETY-LAMPS, AND LIGHTS.

All persons connected with mines, particularly those in which gas is given off in considerable quantities, fully recognise the value of a really good safety-lamp. Of late the question has been pretty fully discussed, for it is only a few days since the men at one of the largest collieries in South Yorkshire refused to work with a lamp the light from which was obtained from spirit, whilst quite recently a paper on the subject, by Messrs. LANDAU, of London, patentees, was read before the North Staffordshire Mining Institute, at Stoke-upon-Trent. The paper, to some extent, traces the history of mining lights and lamps, and one is struck by the great difficulties the miner in the early history of the coal trade had to contend with. It is true that the mines were not very deep, but then he must have worked in almost total darkness. Thus we have it on authority that the only light vouchsafed to the mediæval miner was the phosphorescent gleam from dried fish. The inventions of WATT and Sir HUMPHRY DAVY, however, revolutionised the coal trade and the working of mines, and led to the sinking of deep shafts, and which, in their turn, have led to serious explosions and great loss of life. The great preventative against such is, undoubtedly, thorough ventilation and a good safety-lamp. A high authority (Mr. WOODHOUSE) writing with respect to lamps and certain collieries, says mines in which an explosive atmosphere may be met with ought to be garrisoned as vigilantly as we would a large powder magazine; and, further, that he would not risk the care and responsibility of several collieries if the use of that invaluable instrument, the safety-lamp, were not allowed. But with respect to the light formerly given to the miner, we find that in 1763 a Mr. SPEEDING, of Whitehaven, introduced a steel mill for the safe lighting of coal mines

MINERAL ROLLING STOCK.

The public is well aware that the Midland Company is not afraid of inaugurating changes if they have good ground for believing that the changes, though they may be radical, yet will tend to the profit of the shareholders, and it has now almost become usual to look for surprises in connection with the regular meetings of the Midland Company. How great was the surprise when that company announced their determination to abandon the second-class carriages we need not here point out. No less surprise has been occasioned in certain business circles by the announcement made at the half-yearly meeting, held on Tuesday, last week, at Derby, where the Chairman (Mr. E. ELLIS) stated that the directors had long had under consideration the purchase of the private wagons running upon the Midland Railway. It is estimated, he said, that there were at present something like 40,000 wagons, principally used for the carrying of coal, running upon their system, and which were owned by 300 different proprietors. The cost and inconvenience of having to assort these trucks when mixed up together, so as to deliver them to the different collieries to which they belonged, was not only difficult but expensive. Besides they had not the proper control of the construction of these wagons; and as they ran on the same lines as their passenger trains, and were mixed up with the general traffic, the directors thought it was desirable that the company should control in some way the making of such trucks, and they had arrived at the conclusion, after careful and anxious consideration, that it was the duty of the company gradually, and by consent, not by compulsion, to purchase these 40,000 wagons. To do that they should require a very large amount of capital, and they proposed in the next Session of Parliament to apply for powers to raise one million sterling on account of that purchase. As matter of course, as soon as they acquired wagons under this arrangement the carriage of coals or minerals in these wagons would be charged to the consignees, and the shareholders would get a return upon the outlay. Amongst the advantages promised was this

that whereas now the company had to return wagons empty to the colliery to which they belonged they might after the purchase send a load by them both ways instead of only one.

Doubtless, if all this could be accomplished, not only would the working charges of the company be reduced, and the shareholders' dividends be increased, but colliery proprietors, and merchants, and ironmasters, who are the largest trading holders of rolling-stock, would find their business capital much reduced. But can it be accomplished? Mr. ELLIS and his co-directors appear to think that it can. Perhaps they have been encouraged by the alleged success in their case of the abolition of second-class carriages. The possessing themselves of 40,000 wagons owned by many individuals will be quite a different matter. The very large reduction in the amount of working capital which would result from the acceptance of the Midland Railway Company's offers will be a great temptation to many modern traders; others, on the contrary, whose experience dates much further back, and who have a recollection of the inconvenience to which we have drawn attention, will not, we think, be forward to avail themselves of the opportunity which will by-and-by be placed within their reach. It may be that the difficulties which before existed, arising out of an insufficient supply of rolling-stock, were traceable to an absence of sufficient funds at the disposal of the railway companies. If that was really so then that is a difficulty which need not now prevail, for there is hardly a railway company in the entire kingdom at the present day who would experience impediment in getting for any such purpose all the money for which it may choose to ask, and get it at a figure probably which would well repay the investment if their other resources were equal. There is one set of traders that profit immensely by the subsisting practice who are already beginning to anticipate the change with some alarm. The wagon and the railway rolling-stock companies have had a splendid year of it; indeed, well managed, no concern of this class need ever have been other than a source of much profit to its proprietors, and the concerns which are now in existence are amongst the best dividend-paying things going. Ten per cent. dividends, and in certain instances good bonuses in addition, are gladdening the hearts of shareholders right and left.

The earlier surprise of the Midland has not met with great favour in the railway world, but we are not sure that this proposed purchase of customers' rolling stock will not meet with wide approval among railway companies when money can be got at so cheap a rate. If the change should become general throughout the trunk lines of the kingdom, then it is easy to understand that wagon and rolling stock companies would find their business somewhat curtailed. The Oldbury Railway Carriage Company is already beginning to cry out. When, on Saturday, that company divided a net profit on the year of no less than £36,442, by allotting 10s. on the ordinary shares of £1, fully-paid up, and twice that sum as a bonus, the Chairman (Mr. A. C. SHERIFF, M.P.), after reminding the traders of the early difficulties which we have ourselves pointed out, and assuming that no trader ever went into the market to buy rolling stock until he was compelled, believed that they would give determined opposition to the scheme. As regarded their own company, every one of them must feel that such a scheme was a blow to private enterprise, for they should have many fewer wagons to make if the matter were into the hands of the railway companies. Perhaps they would, but if the railway companies can only provide us with enough stock to carry our minerals to market without unnecessary obstruction, we shall not stickle for the continuance of the prevailing custom, though it may be to the advantage of some coal merchants to have the preference in trade which now and again arises from being the owner of the wagons in which the mineral is conveyed. Free trade would work eventually to the profit of the coalowners, and thereby to the development of our collieries, but it must not be forgotten that the colliers take immediate advantage of the absence of the wagons on the sidings, and that the collier away from work is a source of serious loss to his master.

We have here sketched the suggestions which have occurred to us upon this theme, and we leave to people immediately concerned to further ventilate the question, which should be one of great interest to the whole business community.

NEW SYSTEM OF OIL METALLURGY.—In the Supplement to this day's Journal will be found an abstract of an elaborate report of Prof. Henry Wurtz, of Hoboken, U.S., on a new system of oil metallurgy invented by Dr. C. J. Eames, of the same place. The value and utility of investigations of gentlemen of the scientific reputation of Prof. Wurtz is properly appreciated by practical ironmasters, both in England and America. The Professor has made several visits to Dr. Eames's furnace, and has certainly collected a large amount of information relating to previous inventions for burning petroleum as fuel, as well as with regard to the general manufacture of iron and the petroleum trade. He has discovered that crude Pennsylvanian petroleum is a mixture of a large number of compounds of carbon and hydrogen of densities, boiling points, &c., varying among each other throughout a very wide range, and innumerable other facts which he furnishes in his report are not less important and novel. With perfect combustion 1 lb. of oil will convert 15 lbs. of water into steam. The general conclusions at which Prof. Wurtz has arrived are decidedly favourable to the invention. He admits that the matter is of much greater interest to Americans than to Englishmen, but suggests that the invention might be useful in this country for utilising the Kimmeridge shale. He is aware, he remarks, that from the Kimmeridge shale cropping out in cliffs on the sea shore in the neighbourhood of Poole, as a large geological formation belonging to the upper coalite, which yields 40 or 50 gallons per ton, a crude oil can be made and sold profitably on a large scale for 3s. or 3s. per ton, which would, as he believes, by the help of this method of Dr. Eames enable England largely to retrieve her former pre-eminence in the iron and steel markets of the world. Assuming Prof. Wurtz's views to be correct, it would obviously be to the advantage of all proprietors of Kimmeridge clay deposits to co-operate with Dr. Eames for the development of his British patents. The general character of the invention will be thoroughly understood from the abstract of Prof. Wurtz's report, and when the process has been practically tested in America ample details of the results obtained will be published.

DYNAMITE.—The increased amount of work done with dynamite as compared with either gunpowder or guncotton has frequently been noticed, but the precise relative economy of the several explosives is, perhaps, less generally known. The St. John del Rey Mining Company, during the last two months of 1870, when they were sinking the two new shafts, they sunk with gunpowder 10 fms. 2 ft. 4 in., at a cost of £82. 3s. 6d. per fathom; during the following two months they sunk with dynamite 20 fms. 8 in., at only 43. 14s., so that double the work was done, and there was a saving of 24. 9s. 6d. per fathom. The contractors for the railway tunnel under Clifton Downs used gunpowder, guncotton, and dynamite successively—the boreholes being drilled by machinery to the same dimensions and depth—and the results were that 756 lbs. of powder drove 8 yards, 31 shots per yard forward being put in; and 169 lbs. of guncotton drove 14 yards, 18 shots per yard forward being put in. For driving 15 yards forward, estimating powder at 5d. per lb., and guncotton and dynamite at 2s. per pound each, it would cost 29/ 10s. 7d., with powder 18/- 2s. 2d. with guncotton, and 16/- with dynamite. The saving in time is even greater than the saving in cost.

COAL AND IRON IN THE UNITED STATES.—The production of anthracite coal in Pennsylvania for the last week in July was 635,440 tons, and for the first seven months of this year 9,004,544 tons, against 10,815,087 tons in the corresponding period of 1874. The production of bituminous coal in Pennsylvania for the last week of July was 87,165 tons, and for the first seven months of this year 2,558,860 tons. This latter presents some increase when compared with the production of the first seven months of 1874. The combined production of anthracite and bituminous coal in Pennsylvania to July 31 this year was 11,063,401 tons, against 12,628,962 tons in

the corresponding period of 1874, showing a decrease of 1,565,558 tons this year. The main track of the Michigan Central Railway, with the exception of about 50 miles, is now all steel, as well as the double track, except the Air line, of which about 112 miles are steel. English rails are quoted at New York at \$48 to \$50 per ton gold; and American rails at the works at \$48 to \$50 per ton currency.

AMALGAMATED ASSOCIATION OF MINERS.—At the Conference at Shrewsbury, on Thursday, it was resolved—"That it is the deliberate conviction of this conference that it is the duty of every miner of Great Britain to become as far as possible the owner of the property the wealth of which is won by his toil. Therefore we hail the establishment of co-operative collieries as a harbinger of coming good. Looking to the over-crowded ranks of our mining population, the desire and fact of many of them emigrating to the United States, to the low price of valuable coal lands there, and the present high price of such lands in this country, we hereby renew the recommendation of a former Conference, that the miners of the United Kingdom give their earnest heed to the rare advantages offered by becoming shareholders in the Cumberland Coal and Manufacturing Company (Limited)".

THE WEST MOSTYN COAL COMPANY.—The important announcement is made that the sinkers have reached solid ground, and all danger of sand and running strata is now over. This is the first time that a colliery on the shore of the Dee has been sunk without the slightest mishap in passing through the most treacherous stratification, and the mode in which the tubbing was placed down shows a great advance in pit engineering. The shareholders may well be gratified on having accomplished at so small a cost the difficult part of their undertaking. The Messrs. Higson, of Manchester, are the engineers of the company.

QUICKSILVER IN SHROPSHIRE—EXTRAORDINARY DISCOVERY.—A Shrewsbury publican while digging on Thursday in the centre of the town, struck a vein of mineral which proved on investigation to be quicksilver. A sample, consisting of nearly 16 lbs. of pure refined quicksilver, is now on exhibition.

VALUABLE CALIFORNIA MINES FOR THE ENGLISH AND CONTINENTAL MARKETS.—We have been reliably informed that several valuable California mines will be soon introduced on the English and Continental financial markets. They have been referred for examination and report thereon to Col. Burton, President of the London and Pacific Coast Land and Mining Bureau, who has lately arrived in this city from San Francisco, on business connected with the affairs of the Bureau.

AMERICAN MINES.

The present experience of the Colorado Terrible Company, upon whom an injunction was served in April last, suspending operations in the most important part of the mine, goes far to demonstrate the little practical value to be hereafter attached to a United States Government patent. This company has had possession and steadily worked its mine near Georgetown for five years; on the above date, and without the legal six days' notice, an injunction was served upon the agent to suspend operations upon the affidavit of W. A. Hamill, before a district judge, to the effect that said workings had left the lode granted by the patent, and were on parallel veins to which he lays claim. The company's own surveys show without question that these affidavits have not the slightest foundation in fact, yet no investigation has been permitted. The case was set down for hearing at the late June term of Court, was held over from day to day, and ultimately postponed till the December term of Court. The length of the further delay in making the necessary enquiry can be gauged only by the will of the district judge in question, and, as may be supposed, the company meanwhile suffers great loss. The incident is looked upon by American citizens as a not unusual case of Western black-mailing, but it is black-mailing of a character not calculated to elevate our opinion of American love of fair play, and we venture to point out that proceedings of this designedly harassing character can only result in strengthening the existing disinclination to invest further in American enterprises.

REPORT FROM CORNWALL.

Aug. 26.—The tide has surely turned, or else we should not have had another rise in the tin standard. It is really almost surprising, even to those who have long been familiar with the course of mining events, to see how rapidly the aspect of affairs may change. Three weeks ago or so all was gloomy, and hope almost dead. When hope was realised to a certain extent by the first advance even then it seemed too much to expect that there was any substantial recovery, but now that the first rise has been followed by a second matters again seem very hopeful indeed. Most of our mines are looking very well, and in every respect, except price of produce, the conditions of tin mining are decidedly good. We have some substantial ground now for believing that the only drawback is in course of being removed.

A good deal of attention has been directed of late to copper mining, and it is by no means unlikely that before long there will be a rush after copper. The standard at the sale on Thursday last was over 12*l*.^s, and the demand for copper is very good. If copper mining cannot be made to pay with such a standard it must be owing to extreme poverty of the mine, and not to the price of copper. There is plenty of virgin ground yet to explore, and the chances of good discoveries are fully equal to what they ever were. At West Polidice the shares a short time since were only 22*s*. each, a discovery of copper has been made, and the shares are now sought after at from 7*l*. to 8*l*. At Redruth there is pretty much excitement amongst the brokers and other market men on the subject of copper mining, and a good discovery would now bring a large sum of money. At West Seton the western levels are opening out very fairly, and the returns will increase. Crenver and Wheal Abraham is also looking very well in the western part of the mine for copper, and is nearly paying very well. It seems a doubtful matter, after all, if this great mine will pull through, but it is a great pity that after so much money has been expended, and the mine almost brought into a paying state, it should be allowed to collapse.

An excellent report is made of the success of the treatment of mixed ore at New Consols. The quantity that can be raised from the mine might be easily increased to 100 tons per day. But the present arsenic ovens and chlorodising furnaces are only equal to the treatment of 25 tons per day. The method of extracting the various metals from the stone has been already explained in the *Mining Journal*, and enough having been already proved to ensure the success of the experiment, it is now contemplated to extend operations so as to be able to treat a much larger quantity monthly. Under the old mode of dressing the copper was nearly all lost, but the mine is now able to sell about 8 tons of precipitate monthly, worth about 70*s*. per ton. No doubt many thousand pounds worth of copper are wasted annually in our tin mines that ought to be brought to market profitably to the shareholders. In the mines where copper, arsenic, and tin are blended together in the same stone something is wanted beyond mere "rule of thumb" if the mine is to be worked successfully. Scientific aid must be had, and the various metals separated and utilised. It is a well known fact that in several mines the ores when brought to surface are so nearly alike in value for tin or copper that there is great difficulty in deciding which they had best be treated for. If sold for copper ores this is not only all lost, but the smelter will only give a reduced price for the copper contained in them, owing to the mixture of tin hardening the copper, and rendering it unfit for many purposes to which copper is applied. If, on the other hand, tin is found to predominate the stone is sent to the stamps, and the copper is separated off with the water. The "burnt leavings," as they are called, contain only a small proportion of the whole of the copper, and even then are troublesome and expensive to render marketable. The New Consols treatment should cause many mines to enter on a new phase of existence.

The Cornwall Railway meeting is to be held to-morrow. The report is not very pleasant reading. The line has suffered materially in traffic, chiefly because of the mining depression, and the maintenance charges, chiefly connected with the wooden viaducts, are now enormous. The receipts for the half-year have fallen off 359*l*., the passenger decrease being 18*l*., and the goods 16*l*., The working expenses of the half year have increased 1*l* 6*s*., and interest charges 1*l* 18*s*.. The total result is that the Associated Broad Gauge Companies have to provide 10,893*l*. to cover their guarantees, as compared with 451*l*. in the corresponding half of last year. There has been a decrease over the corresponding period of 800 in first-class passengers, and of 19,000 in the second. The third, however, have advanced nearly 10,000, in

spite of the depressed state of affairs in the county. General merchandise and live stock show an increase of 1000*l*, but this is more than swallowed up by the falling off in minerals, which figure for only 549*l*., against 812*l*., the tons carried being 64,000 as compared with 87,434. The receipts per train mile are 6*s*. 3*d*., though below 1863 and 1874, are above 1872. The working expenses are 6*s*. 12*p*., as against 6*s*. 5*d* in the corresponding half of 1874. In the first six months of 1872 they were only 4*s*. 8*d*, or 3*s*. 1*d*. per train mile, against 4*s*. 1*d*. now. Since 1872 the maintenance has increased from a percentage of 15.72 to 22.65, locomotive power from 12.20 to 17.95, traffic expenses from 11.32 to 14.44. General charges show a reduction. Law has cost 59*l*, against an average of about 80*l*. The great item of increase on interest is under the head of locomotive and rolling stock—which is nearly double what it was in 1872. It is a fact worth noting that the gross traffic of the Cornwall Minerals Railway has increased, although the Perran Iron Mines are still in abeyance.

This has been an accident week. By three accidents five lives have been lost and other injury done. The most serious casualty occurred at St. Aubyn United, between Redruth and St. Day. For some time past the 25 fm. level has been driving, under the expectation of communicating to some old workings which were worked some years since, and which have become filled with water. The ground was rather fair, but as soon as the miners holed to the old workings the water burst out with great violence, and speedily filled the whole of the bottom levels of St. Aubyn United. The principal part of the men employed in the mine made their escape, but a man named Pope, and his son, and another man, are drowned. In the haste to get away another man was injured in his back—it is believed seriously. The mine is filled with water, so that the accident is a serious one every way. The other two accidents are due to the explosion of holes. In one case, at Carn Brea, a man named Kitto was killed while tamping, but as he was tamping with a copper bar the law was fully complied with, and there was no blame attaching to anyone. In a similar accident at Pende-an-drea, by which a young man named Clemo was killed, the facts were otherwise. Deceased was engaged in putting in the tampon on the charge of gunpowder which had been placed in a hole he had bored, and for that purpose was using an iron tamping bar on the first layer of tamping when the powder exploded. Dr. Foster, the Government Inspector, who was present at the inquest, stated that the law required that no miner should use an iron tamping bar on the powder, or on the first layer of tamping, and that had Clemo survived the accident he would have rendered himself liable to prosecution for a breach of the law. The verdict returned was that of "Accidental death." But the question at issue is—how are these accidents to be avoided in future? Tamping bars of some sort have to be used, and if the law will not allow iron it is clearly the duty of all mine agents to provide their miners with an efficient and safe bar. It is not difficult to find such an one. In some mines, but, sadly enough, in very few, copper head tamping bars are used, and these are acknowledged to be safe in themselves, though, as in the Carn Brea case shows, danger cannot be altogether eliminated. As the tools the miners work with are found by the agents of the mine, it is an absurdity to talk of punishing miners for working with such tools. They have no alternative: they must either work with such tools as they are provided with or the work has to be left undone. This is a point which should be seen to.

The annual excursion of the Royal Institute of Cornwall took place on Tuesday, under the direction and guidance of the President (Dr. Jago, F.R.S.) and two of the honorary secretaries, Mr. Foster and Mr. J. H. Collins. The St. Austell district was that visited. One of the special objects of the excursionists was the inspection of some of the china-clay works. The first visited was a new work belonging to Mr. Barret, at Rosemellyn, under the management of Capt. Martin. Here there are large deposits of clay of very fine quality. These are being developed in works which are admirably laid out, and of the most efficient character. The quantity of work which has been done here in a couple of years is very remarkable. The whole process of the manufacture of china-clay was shown, and a full explanation given by Mr. Collins. Carclaze was also inspected. Carclaze Mine is one of the lions of the West. Tradition says that it was worked by Britons; record carries back its date at least 400 years. Whoever worked it did so with a will. It is not a mine in the ordinary sense of the term but a huge surface excavation some 100 ft. deep, over a mile in circuit, and occupying probably over 10 acres of ground. Until late years it was worked wholly for tin. It was then found to contain large quantities of china-clay, and for china-clay it is now chiefly wrought by the proprietors, Messrs. Lovering and Sons, who cordially and personally made the excursionists welcome. A select few made their way to the bottom, and there learnt that all the clay and debris are washed out of the bottom of the mine through an adit level which opened on the face of the hill below. This saves all hauling. There is something singularly picturesque in a narrow defile between two branches of the pit. The prevailing hue of the cliffs is white, and with their irregular shapes and their jagged peaks, they really resemble a miniature series of snow-clad Alpine peaks. By moonlight the effect is said to be fantastic in the extreme. At the mouth of the adit, on the side of the hill towards St. Austell, are all the usual appliances of a clayworks, but on the most extensive scale. For example, the two settling tanks are capable of containing about 1000 tons each.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Aug. 25.—The South Staffordshire Iron Trade, alike in the pig and the finished departments, fails to present any improvement on our last report. The pig makers continue to experience very severe competition on the part of rival producers in the North Country districts, where the conditions of production are just now much more favourable than in South Staffordshire. The number of furnaces blowing in the district is 70. This is 40 less than the number in operation five years ago, and as compared with that period the yield has been reduced 4000 to 5000 tons per week. Common cinder pigs are quoted 2*l*. 15*s*., but the selling rates are very irregular, and parcels are understood to have changed hands at below that figure. Best native all-mine pigs are steady at 4*l*. 15*s*. per ton for hot-air, and 6*l*. per ton for cold-air makes. The finished iron branch of the trade has been very unsettled this week, owing to the repudiation by the ironworkers of the wages agreement made on their behalf by the Conciliation Board. The agreement was to have come in force last Monday, but on that day the majority of the ironworkers failed to appear in their accustomed places, and the works have since for the most part remained closed. Under these circumstances the transactions of the week have been of merely nominal extent, and the prices of the common classes of iron, although without quoted change, have been irregular, with an easier tendency.

The South Staffordshire Coal Trade is steadier this week as regards the better qualities, and prices have been well supported on the basis of 1*l*. per ton for furnace thick coal. Common coal is without alteration.

The following were included in to-day's quotations on the Birmingham Stock Exchange.—Chilington Iron, 4*l* to 5*l*; Staffs Wheel and Axle, 1*l* 12*s* prem.; Sandwell Park Colliery, 3*l*; Cannock and Huntington Colliery, 2*l* prem.; Oldbury Carriage, 6*l*; John Bagnall and Sons, 5 dis.; Pelsall Coal and Iron, 5 dis.; Patent Shaft and Axle, 4*l* prem.

The Darlaston Galvanising Company (Limited) have issued their financial statement for the past half-year. The amount of paid-up capital is 4350*l*, and profit and loss account shows a balance of 288*l*.

Mr. Richard Williams, of Wednesbury, who for so many years has been the general manager of the Patent Shaft and Axle Company (Limited) has just been elected to the position of managing director. The concern, which is one of the most prosperous of its kind in the kingdom, employs 4000 workpeople.

The North Staffordshire Iron Trade has presented a somewhat improved appearance since our last report, the mills and forges having in some instances been in full operation. Prices are without quoted change, but a check seems to have been given to the downward direction. The range of prices for pigs is 6*l*. 6*s*. to 7*l*. 6*s*. at the furnaces; but at this period of the quarter there is, as usual, little doing.

DUDLEY AND NORTH STAFFORDSHIRE FIELD CLUBS.—A joint meeting of these clubs was held at the Rowley Hills on Friday last. A large party, including many ladies, assembled in the old quarry in the Rowley Rag at Cox's Rough, where the columnar form of basaltic rock, caused by the cooling of the lava from which it was formed, was seen, and also a capital specimen of one of those curious concretions like an onion was knocked to pieces to show the successive layers. The party then inspected the colliery plant of Mr. Milton, who sank the first pits through the Rowley Rag, having more confidence in the scientific opinions he had formed as a geologist than in the almost universal belief of the neighbourhood that there was no good coal under near the basalt. All were much interested in watching the quick drawing engines, the endless rope for underground haulage, and the endless chain by which the full tubs of coal pull the empty tubs up the incline. The Lye Cross Pits were then visited, and an unexpected treat was afforded by the arrangements made by Mr. Litham, on behalf of the Earl of Dudley, for the descent of the whole party. When assembled at the bottom, Mr. Litham exhibited a section, and explained the workings, using the apt illustration that the pit was like Dudley Church, and the coal was found descending in each direction like the roads to Stourbridge and Tipton, but that the pit was sunk below the coal, and levels driven out to meet the bottom of the coal towards the foot of the hills, each

most here delivered an address, explanatory of the working of his diamond rock borers, showing it to be above 20 times as expeditious, and 400 per cent. cheaper in cost of working than the old method of percussive drilling.—A vote of thanks was passed to Major Beaumont for his address, and to the commissioners for the hospitality that had been extended to the institution. On returning up the river the holes were found to have been drilled by the machine in three and a half hours. Having been filled with dynamite, varying in quantity from $\frac{1}{2}$ lb. to $1\frac{1}{2}$ lb., the fuses were fired, and the detonation resulted in the report of seven explosions several of the shots having been fired simultaneously.

FAILURE OF THE BANK OF CALIFORNIA.—The announcement received by telegraph that the Bank of California has suspended payment will surprise none but those who were not acquainted with the speculative character of that establishment, as well as of its president—Mr. W. C. Rolston. We shall in next week's Journal bring before our readers the principal causes which were of a nature to render the failure of the Bank of California inevitable, and but a question of time. Mr. Rolston, it will be remembered, was one of the promoters of the Arizona diamond scheme, and it is notorious that he was engaged either directly or through his agents in nearly every mining and other project in California and Nevada. It would be unjust to render these two sister States responsible for the disastrous end of the Bank of California, as their peoples will be the first victims of its speculative way of transacting business. But the disposition of that establishment will before long restore confidence and purify all the great interests of California. The new Bank of Nevada, established by the rich firm of Messrs. Flood, O'Brien, Mackay, and Fair, will receive by the failure of the Bank of California a salutary warning, and it is hoped that they will limit their operations to legitimate banking business, so as to keep their reputation for integrity in unison with the vast interests which they represent.

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PARTICULARS OF THE POSITION AND PROSPECTS OF THE
LLANDILO SILVER-LEAD AND BLENSE COMPANY (LIMITED),
SITUATED IN CARMARTHENSHIRE, SOUTH WALES.
Capital £3200,
Divided in 64 Parts or Shares of £50 each, fully paid-up.
BANKERS.
THE METROPOLITAN BANK (LIMITED), 75, Cornhill, E.C.
SOLICITOR.
GEORGE BLAGDEN, Esq., 22, Great Winchester-street, E.C.
MR. GEORGE SEARLE CAUNTER.
OFFICES, 62, CORNHILL, LONDON, E.C.

The Llandilo Silver-Lead and Blende Mine is situated near the east end of the village of Llandilo, and adjoining the goods station of the Llandilo and Llanelli and Carmarthenshire Railways, about 25 miles from Swansea. From this station all the materials required for the mine can be delivered from the railway.

Some years since operations were commenced, and for a short time carried on, when large quantities of blende were raised. Blende at that time was not in great request, and only of comparatively small value, consequently the works did not proceed, although blende was found in abundance and rich in quality; now, however, blende, or zinc ore, is equally as marketable as copper, tin, or lead. The blende in this mine being very rich, would now sell for £5 to £8 per ton, and practical mining engineers who have reported on the mine, consider that zinc ore in abundance can be raised, and that at deeper workings it will become a silver-lede mine, equal to any in South Wales.

About 80 yards north-east of the railway station a level has been extended 100 fms., and intersected one of the lodes. In this adit the works were continued on the course of the lode, which varies in width from 10 in. to nearly 5 ft., a shaft has been sunk from surface to 10 fms. below adit; 4 fms. east from this shaft is a shoot of blende 3 ft. thick, spotted with rich silver-lead, and containing very fine zinc ore, with a beautiful spar, and in places 3 ft. wide of solid ore, equal to 6 tons or £20 per fathom.

The object of the present company is to acquire by lease, agreement, purchase, or otherwise the mine (with such plant and other materials as are thereon or belonging thereto) now known as the Llandilo Silver-Lead and Blende Mine, situate at Llandilo, Carmarthenshire, South Wales. Also to work the said mine, and for that purpose to sink such shafts and erect such machinery as may be necessary. The work already done in this mine in sinking and driving adits, independent of timber work, tramroads, and water courses, &c., have been executed in a sound and miner-like manner, at great cost, and will be of permanent advantage, and the company will commence operations on a profitable paying property.

The royalties are—for blende, 1 $\frac{1}{2}$ th.; silver-lead, 1 $\frac{1}{2}$ th.; the average royalty of Welsh mines being 1 $\frac{1}{4}$ th. The reports of Mr. Phillips, M.E., Capt. J. Thomas, M.E., Capt. J. T. Evans, M.E., Mr. Henwood, M.E., Mr. Cornish M.E., Capt. J. Kenwick, M.E., and Mr. Hopt Huxham, M.E., will be sufficient evidence of the great value of this sett. The analysis of Prof. White gives 43% per cent. of zinc, with a large product of silver-lead.

These reports and the analysis were made for the late directors, who, whilst having every confidence as to the correctness of the same, deemed it prudent personally to test their accuracy as far as practicable, and with such view caused the shaft and main adit level to be cleared and examined, and a deputation from their board afterwards attended to inspect the property, and obtained the personal advice and opinion of Mr. Hopt Huxham, of Swansea, mining engineer, who met them at the mine, and blasted several average specimens of silver-lead and zinc ore from one of the main lodes, which upon analysis were found to be highly favourable.

The committee, therefore, feel great confidence in the undertaking, which offers to investors an opportunity of considerable promise.

Copies of the Memorandum of Association, reports, specimens, &c., may be inspected at the office of the company, where every information can be obtained.

Applications for Shares must be made to the Secretary on or before Thursday next.

THE LLANDILO SILVER-LEAD AND BLENSE COMPANY (LIMITED).

£250 Shares (fully paid up).

To Mr. G. S. CAUNTER, 62, Cornhill, London, E.C.

Sir—I request you will secure for me fully paid shares, of £50 each, in the above company, for which I enclose cheque or draft, value £ in pay-

Signature
Name (in full)
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JACOB'S ROD.—A TRANSLATION from the French of a RARE and CURIOUS WORK, A.D. 1693, on the ART OF FINDING MINES, SPRINGS, and MINERALS; to which is appended RESEARCHES, with PROOFS of A MORE CERTAIN and FAR HIGHER FACULTY, with simple Instructions for using it.

Folio 2a. ed., of the Translator, Mr. THOS. WELTON, No. 13, Grafton-street, Finsbury-square.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862 and 1867, and of the SOUTH PHENIX TIN AND COPPER MINING COMPANY (LIMITED).—TO BE SOLD, under the direction of the Registrar of the said Court, on Tuesday, the 7th day of September next, at Twelve o'clock at noon, at the South Phoenix Mine, in the parish of Linkinhorne, within the said Stannaries, in One Lot, and subject to such conditions as shall be then and there produced, ALL that INTEREST of the said company of and in the SETT under which its operations within and upon the said mine have been carried on, together with the underrun.

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS, Including all ORES at surface belonging to the said company, and being within and upon the said mine, and comprising, with other effects:

ONE double-acting ROTARY ENGINE, 25 in. cylinder, 7 ft. stroke, with fly-wheel and cage; ONE 10 ton BOILER; 12 head iron STAMPS AXLE, with heads, lifters, &c., balance and other bobs, about 60 fms. of from 9 in. to 6 in. pitwork, about 40 fms. 9 in. main rods, 30 fms. 1 $\frac{1}{2}$ in. iron bucket rods, horse whips and shaft, tackles, stands and pulleys, a quantity of chain, several kibbles, dressing-floors, 4 round buddies, with driving gear, 1 $\frac{1}{2}$ ft. water wheel, 1 ft. ditto, 12 self-acting frames, about 100 fms. launders, smiths' and carpenters' tools, account house furniture, and numerous other articles and effects in general use in mines.

To inspect the above, apply to the Bailiff in charge, at the Mine; and, for further particulars, to Mr. CHARLES WILLIAM CLINTON, the Official Liquidator of the said company, at the Stannaries Court Office, Truro.

HODGE, HOCKIN, AND MARRACK, Truro.
(Solicitors for the said Official Liquidator.)

Dated Stannaries Court Office, Truro, Aug. 24, 1875.

CUMBERLAND.

THE ELLEN IRON AND STEEL WORKS, MARYPORT, FOR SALE.

MR. C. P. HARDY WILL SELL, BY AUCTION, at the County Hotel, Carlisle, on Friday, the 3rd September, 1875, at Three o'clock in the afternoon, the valuable IRON and STEEL WORKS, situate at Maryport, in the county of Cumberland, known as the ELLEN WORKS, recently in the occupation of the Ellen Iron and Steel Company.

The works are of recent construction, and include powerful and well-adapted STEAM ENGINES, six egg-ended and one double tube boiler, twelve puddling furnaces, one ball and four mill furnaces, two steam hammers, forge and mill trains, donkey and special pumps, large and small shears, with punching machinery, adapted roll turning lathe, and saw and engines, complete, shafting and driving gear, weighing machine, steel rails, and other fixed plant.

The WORKS are FREEHOLD, subject to the payment of yearly ground rents, amounting together to £59 8s. 10d., and comprise over 7000 square yards. They adjoin the Whitehaven Junction Railway, from which there is a siding, and are at a very short distance from the dock at Maryport.

To ironmasters and capitalists, the opportunity for securing this valuable property is a highly advantageous one.

Further particulars, and an order to view the works, may be obtained at the offices of Mr. E. HOUGH, Solicitor, 34, Fisher-street, Carlisle.

Carlisle, 19th August, 1875.

BLENCOWE MINE, ST. STEPHENS IN-BRANWELL, CORNWALL.

TO BE SOLD, BY PUBLIC AUCTION, BY MR. W. J. JOHNS, on Thursday, the 2nd day of September next, at Eleven o'clock in the forenoon, at the Blencowe Mine, in the parish of St. Stephens-in-Branwell, in the county of Cornwall, subject to such conditions as shall be then and there produced, in One or more Lot or Lots, the WHOLE of the VALUABLE and EXTENSIVE MINING PLANT, MACHINERY, MATERIALS, & EFFECTS, Now being within and upon the said Mine, and comprising the following:—

70 in. cylinder PUMPING ENGINE, 12 by 10 $\frac{1}{2}$ in. stroke, with first piece rod and balance bob, and TWO BOILERS, shears, with 2 sleeves.

36 in. STAMPING ENGINE, 9 ft. stroke, with BOILER and fly-wheel, 2 axes with 28 heads, lifters and frames, 1 axle for 16 heads, with heads, &c., not erected, 18 in. STEAM WHIM, 4 ft. stroke, with ONE BOILER and fly-wheel, wood cage ditto, wire rope and chain, and a variety of other articles and effects in general use in mines.

The mine having been worked only about four years, the above materials are in excellent condition, and being situate about two miles from the Grampound Road Station on the Cornwall Railway, unusual facilities for removal are afforded.

To view the same, apply to Captain TREDDINICK, on the Mine; and for further particulars, to the Auctioneer; or to Messrs. SMITH and PAUL, Solicitors, Truro; or Mr. J. T. TREVENA, Solicitor, Redruth.

Dated 18th August, 1875.

GENERAL MINING COMPANY FOR IRELAND (LIMITED). IN LIQUIDATION.

THE VALUABLE FREEHOLD AND LEASEHOLD MINERAL and OTHER INTERESTS, and the EXTENSIVE MINING and MANUFACTURING MACHINERY, PLANT, and BUILDINGS, of the GENERAL MINING COMPANY FOR IRELAND (LIMITED), situate at and in the neighbourhood of SILVERMINES, in the county of TIPPERARY, within five miles of the Nenagh Station of the Great Southern and Western Railway, and within eight of the Birdhill Station on the Killaloe Branch of the Waterford and Limerick Railway System, TO BE SOLD, BY AUCTION, at Silvermines, on Wednesday, the 29th day of September, 1875, and succeeding days, commencing each day at noon precisely.

The mineral sets extend over about 2000 acres, and include deposits of calamine (carbonate of zinc), silver-lead, blende, copper, sulphur, and fire clay, and are held partly in fee and partly under terminable leases; all free from dead rents, and some free from royalty, and others subject to moderate royalties, with exceptionally favourable conditions for working.

The manufacturing plant comprises everything necessary for the making of zinc oxide direct from the calamine cre, which manufacture was successfully carried on by the General Mining Company.

The mining buildings, plant, and machinery include every requisite for carrying on extensive operations, and they are now in good working order.

Detailed particulars of the lots, with lists of the buildings, plant, and machinery, and the conditions of sale can be had from the undersigned, who will be prepared to receive private offers up to within one week of the day of sale:—D. and T. FITZ-GERALD, Solicitors for the Liquidators, 20, St. Andrew's-street, Dublin; L. STUDERT, LL.D., THOMAS BAKER, Liquidators, 58, Amiens-street, Dublin.

HENDON SPELTER WORKS COMPANY.

TO CAPITALISTS, PROMOTERS OF PUBLIC COMPANIES, & OTHERS.

FOR SALE, in consequence of the Death of the late Senior Partner, the SPELTER WORKS, situate at Hendon, in the borough of Sunderland, in the county of Durham, now being carried on under the style of "THE HENDON SPELTER COMPANY."

The works are situated within one mile of the well-known docks of the port of Sunderland, and adjoining the Hartlepool Branch of the North Eastern Railway, with which they are connected by high and low level sidings, and thereby placed in communication with all parts of the United Kingdom. Their position, within easy distance of both the ports of Newcastle and Sunderland, is very advantageous for the cheap importation of raw material, as also the forwarding of the manufactured article either by land or sea.

The ground on which the works are built could be either bought out or sold on a yearly perpetual ground rent, and any quantity under 20 acres could be included in the sale.

Being situated in the midst of the Durham Coal Field fuel of the best description can be obtained at a cost below almost any other part of the United Kingdom. There are 19 workmen's cottages, which could be sold with the works.

The works contain 24 zinc furnaces, capable of producing 70 tons of metal a week, as also calciners, potlofts, machinery, blacksmiths' and joiners' shops, &c., of sufficient capacity for a much larger number. The works could, therefore, be doubled at a comparatively small cost.

The quality of the metal made at these works is well known, and it, therefore, commands a ready sale at the highest prices.

Attached to the high level sidings are large depots for coal, ore, &c.

The goodwill would, of course, go with the works, and they will be sold subject to all stock being taken at a fair market value.

The purchaser can also have the option of buying the CALCINING WORKS and VALUABLE MINES in SPAIN, thus allowing of the economical and regular supply of the raw material, and saving the mineowners' and merchants' profits.

As the ore from the South of Spain generally comes as ballast for ships laden with esparto, it has been brought for this company at an average cost of 7s. per ton, sometimes as low as 4s. 6d.

Further particulars can be had on application to the company.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.

THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

To BE SOLD, BY PRIVATE TREATY, ALL the BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situate in the several parishes of Llangynog, Llanrhaidr-yn-Mochnant, Hirnant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

The works may be inspected at any time upon application to the Manager at the Mines. The leases and agreements may be inspected at the offices of Messrs. LONGUEVILLE, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected, on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod y-Bwch, Ruabon; or to Messrs. LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

Just published, 12mo, cloth boards, price 4s., or limp cloth (Weale's Series), 3s. 6d. (postage 3d.).

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THE LESSEE'S INTEREST in certain VALUABLE CHINA CLAY and TIN WORKS, in full operation, and also in certain CHINA CLAY and TIN, COPPER, and IRON ORES SETTS in CORNWALL TO BE DISPOSED OF.

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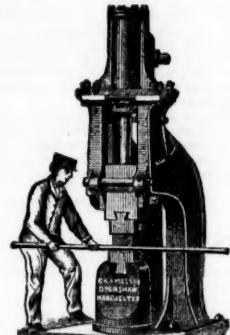
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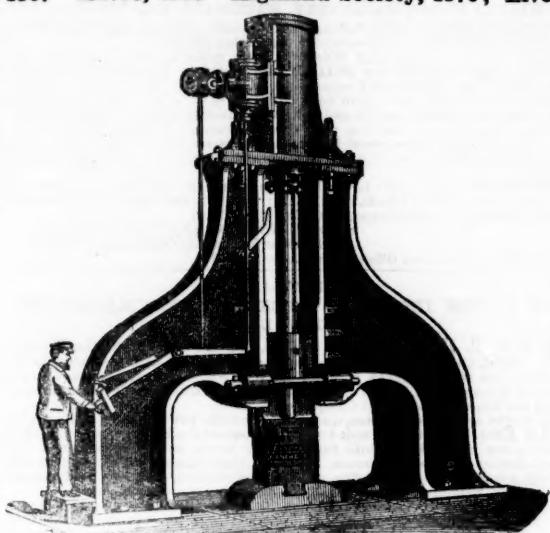
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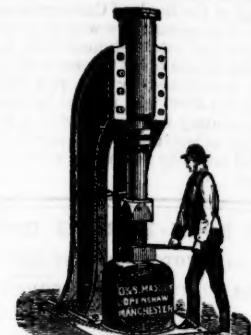
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ITS SAFETY is evidenced by the total ABSENCE OF ACCIDENTS in transit and storage; it is insensible to heavy shocks, its GIANT POWER being only fully developed when fired with a powerful percussion detonator, and hence its great safety.

As a SUBSTITUTE FOR GUNPOWDER its advantages are the GREAT SAVING OF LABOUR, rapidity and INCREASE OF WORK done, FEWER and smaller BORE-HOLES required, greater depth blasted, safety in use NO DANGER FROM TAMING, absence of smoke, unaffected by damp, &c.

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WILLIAM J. VIAN, Secretary.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid
15,0 Alderley Edge, c, Cheshire*	10 0 0	—	12 6 8..	5 0 5..	Jan.	1875	
30,000 Bampfylde, c, i, mn., Devon*	1 0 0	—	13 1/2 13 1/2	0 2 0..	0 2 0..	June 1873	
6,000 Barn Caenau, s-l, Cardigan* (24 sh.)	3 10 0	—	—	0 10 9..	—	—	
200 Bettslock, t, c, St. Just*	116 5 0	45	40 50	619 15 0..	5 0 0..	Aug. 1872	
4,000 Brookwood, c, Buckfastleigh	1 16 0	4	3 1/2 4	3 10 6..	0 4 0..	July 1875	
32,45 Cargoll, s-l, Newlyn*	5 10 0	1	3 1/2 1	4 16 2..	0 12 6..	Oct. 1872	
6,400 Cashwell, t, Cumberland*	2 10 0	—	—	1 6 6..	2 6..	Aug. 1872	
1,000 Carn Brea, c, Illogan*	35 0 0	37	38 40	308 0 0..	1 0 0..	Feb. 1874	
9,000 Cath & Jane, t, Penrhyneddraeth	5 0 0	—	—	0 7 6..	0 7 6..	June 1872	
2,450 Cook's Kitchen, t, Illogan*	21 9 9	5	7 8	11 17 0..	0 7 6..	Jan. 1872	
10,240 Deon Gt. Consols, c, Tavistock* §	1 0 0	3	2 1/2 2 1/2	116 10 0..	0 12 0..	May 1872	
4,295 Dolcoath, t, t, Camborne	10 14 10	41	44 46	106 16 8..	0 10 0..	June 1873	
6,500 Drake Walls, t, c, Calstock	6 0 0	—	13 1/2 13 1/2	0 2 0..	0 2 0..	July 1874	
10,000 East Bawlesden, t, Sandreid*	1 0 0	—	—	0 2 11 0..	0 5..	Feb. 1874	
6,144 East Cadron, c, St. Cleer*	2 14 6	—	13 1/2 1 1/2	14 19 0..	0 2 0..	Oct. 1872	
300 East Darren, t, Cardiganshire	32 0 0	—	—	22 9 10 0..	1 0 0..	July 1872	
6,400 East Pool, t, Illogan	0 9 9	—	13 1/2 14 1/2	13 19 0..	0 2 6..	July 1872	
1,000 East Wheal Lovell, t, Wendron*	5 19 0	8	7 1/2 8 1/2	20 7 6..	0 7 6..	Oct. 1874	
2,800 Foxdale, t, Isle of Man*†	25 0 0	—	—	80 15 0..	0 10 0..	Sept. 1872	
4,000 Glasgow Carr, c, (30,000 £1 p., 10,000 sh. ps.)	13 4..	13 1/2 13 1/2	0 7 4..	0 1 6..	Jan. 1871		
15,000 Great Laxey, t, Isle of Man*	4 0 0	15	14 15	18 3 0..	0 8 0..	July 1875	
25,000 Great West Van, t, Cardigan*	2 0 0	—	3 1/2 3	0 2 0..	0 1 0..	Ang. 1874	
5,008 Great Wheal Vor, t, c, Helston*§	40 15 0	—	3 1/2 3	15 19 6..	0 2 6..	June 1872	
6,400 Great Burth, t, Durham	0 8 0	—	4 1/2	1 12 0..	0 4 0..	Oct. 1874	
30,000 Grogwinion, t, Cardigan*	2 0 0	—	2 1/2 3	0 2 0..	0 1 4..	Dec. 1874	
6,830 Gunnislake (Clitters), t, c	5 5 0	—	13 1/2 13 1/2	0 7 3..	0 1 6..	June 1875	
1,024 Herodsfoot, t, near Liskeard*	8 10 0	—	3 1/2 3	62 5 0..	0 15 0..	Oct. 1872	
18,000 Hindton Down, c, Calstock*† (21 sh.)	2 5 0	—	13 1/2 13 1/2	4 8 0..	0 8 0..	Dec. 1872	
25,000 Killaloe, s-l, Tipperary	1 0 0	—	—	0 3 11/2 0..	0 6..	Mar. 1875	
400 Lisburne, t, Cardiganshire	18 15 0	—	—	568 10 0..	1 0 0..	Aug. 1875	
5,120 Lovell, t, Wendron	0 10 0	—	3 1/2 3	0 17 6..	0 1 6..	Jan. 1875	
11,000 Melindur Valley, t, Cardigan*	3 0 0	—	—	0 7 2..	0 8 7..	Jan. 1875	
9,000 Miners Mining Co., t, Wrexham*	5 0 0	—	7 1/2 7 1/2	63 19 2..	0 2 0..	May 1875	
20,000 Minico Co. of Ireland, c, l, *§	7 0 0	—	—	0 8 0..	0 3 8..	July 1872	
12,000 North Bendre, t, Wales	2 10 0	—	—	1 0 0..	0 2 6..	Apr. 1875	
2,000 North Levant, t, c, St. Just*	12 2 0	3	2 1/2 3	4 13 0..	0 12 0..	Sept. 1873	
9,258 Old Treburret, t, ordinary shares	0 10 0	—	3 1/2 3	0 1 4..	0 6..	July 1874	
9,130 Old Treburret, t, (10 per cent. pf.)	—	—	—	0 5 0..	0 5 0..	Nov. 1871	
5,000 Penhalick, t, St. Agnes	9 17 0	6	4 6	—	—	—	
4,578 Penstruth, t, St. Gwenap	3 0 0	—	1 1/2 2	3 13 6..	0 2 0..	July 1875	
6,000 Phoenix, t, Linkinhorne§	2 0 0	—	3 1/2 3	0 2 0..	0 1 0..	Nov. 1874	
1,772 Polberro, t, St. Agnes	8 14 4	—	3 1/2 3	39 19 10..	0 4 0..	Nov. 1872	
18,000 Prince Patrick, t, l, Holywell	1 0 0	—	—	1 12 6..	0 5 0..	Mar. 1875	
11,120 Providence, t, Lelant*	16 16 7	—	—	0 11 6..	0 2 6..	July 1875	
2,000 Queens, s-l, Holywell*	2 0 0	—	—	0 2 0..	0 2 0..	Sept. 1874	
12,000 Roman Gravels, t, Balop*	7 10 0	12	11 1/2 12 1/2	4 19 0..	0 8 6..	May 1875	
10,000 Shelton, t, St. Austell	1 0 0	—	—	0 1 0..	0 1 0..	Feb. 1872	
512 South Cadron, c, St. Cleer	1 5 0	105..	16 115	720 0 0..	1 0 0..	June 1875	
6,000 South Care Brea, t, c, Illogan*	2 6 6	13 1/2 13 1/2	0 10 0..	0 2 6..	July 1872		
6,123 South Condurrow, t, c, Camborne*†	6 5 6	4 1/2..	6 5 1/2	1 7 6..	0 5 0..	July 1875	
6,000 South Darren, t, Cardigan*	3 6 6	—	—	1 1 6..	0 1 6..	Nov. 1870	
10,000 So. Pr. Patrick, t, l, (8,000 sh. issued)	1 0 0	—	—	0 8 0..	0 2 0..	Apr. 1875	
8,771 St. Just Amalgamated, t*	3 10 0	—	—	0 9 0..	0 4 0..	Nov. 1871	
12,000 Tankerville, t, Salop*	6 0 0	—	12 1/2 11 1/2	3 18 0..	0 5 0..	Aug. 1875	
8,000 Tincroft, t, Pool, Illogan	9 0 0	19 1/2	22 23	48 8 6..	0 5 0..	Aug. 1875	
1,000 Tretol, t, Bodmin	2 0 0	—	—	0 1 0..	0 1 0..	Mar. 1874	
4,000 Trumpet Consols, t, Heiston*	7 10 0	—	3 1/2 3	9 11 0..	0 10 0..	Nov. 1872	
15,000 Van, t, Llandilo	4 5 0	15	24 25	15 4 6..	0 13 0..	July 1875	
8,000 Wh. Chiverton, t, Perranzabuloe*	12 10 0	—	16 1/2 16 1/2	52 17 6..	0 7 6..	Aug. 1875	
512 West Tolgus, t, Redruth	95 10 0	49	48 50	8 10 0..	1 5 0..	Aug. 1875	
2,045 West Wheal Frances, t, Illogan	27 3 9	6	7 1/2 8	3 12 6..	0 5 0..	Oct. 1875	
512 Wheal Basset, t, Illogan	5 2 6	5 1/2	6 5 1/2	638 10 0..	1 10 0..	Aug. 1875	
2,048 Wheal June, t, Kew	2 15 10	—	—	11 5 0..	0 5 0..	July 1875	
4,226 Wheal Kitty, t, St. Agnes	5 4 8	2 1/2 3	2 1/2 3	11 19 6..	0 2 6..	Dec. 1874	
896 Wheal Margaret, t, Uny Lelant*	15 17 6	—	—	82 2 3..	0 10 0..	May 1872	
80 Wheal Owles, t, St. Just*	56 5 0	120	125 150	522 10 0..	4 0 0..	Aug. 1872	
6,000 Wheal Prussia, t, Redruth	2 0 0	—	2 1/2 2	0 1 0..	0 1 0..	Dec. 1872	
12,000 Wheal Russell, t, Tavistock	1 0 0	—	—	0 3 3..	0 6 0..	Nov. 1874	
10,000 Wheal Whisper, t, c, Warleggan*	1 0 0	—	—	0 1 6..	0 6 0..	May 1872	
2,500 Wicklow, t, s-l, Wicklow	2 10 0	—	—	89 9..	0 2 6..	Mar. 1875	
10,000 Wye Valley, t, Montgomery*	3 0 0	—	3 1/2 4	0 6 0..	0 3 0..	Aug. 1875	

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
35,500 Alamillo, t, Spain*†	2 0 0	—	2 1/2 2 1/2	1 7 9..	0 2 0..
80,000 Almada and Tirito Consol., t, *§	1 0 0	—	3 1/2 3	0 5 3..	0 1 0..
20,000 Australian, c, South Australia*	7 7 6	—	2 1/2 2 1/2	0 15 6..	0 2 0..
10,000 Battle Mountain, c, (6240 part l'd.)	5 0 0	—	1 3	0 10 0..	0 10 0..
15,000 Birdseye Creek, g, California*	4 0 0	—	1 1/2 1 1/2	0 14 0..	0 2 6..
6,000 Bersenbach, t, Germany*	10 0 0	—	3 3 1/2	0 17 4..	0 8 0..
1,320 Burnt Burna, c, So. Australia	5 0 0	—	—	17 4..	0 8 0..
20,000 Caps Copper Mining, t, So. Africa..	7 0 0	—	34 1/2..	20 15 0..	1 0 0..
4,000 Cedar Creek, g, California*	5 0 0	—	3 1/2 3	0 15 6..	0 13 0..
80,000 Central American Association*†	18 16 6	—	—	52 17 6..	0 7 6..
15,000 Chicago, s, Utah*	10 0 0	—	—	0 6 0..	0 1 0..
21,000 Colorado, t, Colorado*	10 0 0	—	3 1/2 3	0 13 6..	0 4 0..
10,000 Colorado, t, Colorado*	10 0 0	—	3 1/2 3	0 13 6..</td	